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OFFICIAL PUBLICATION
OF THE
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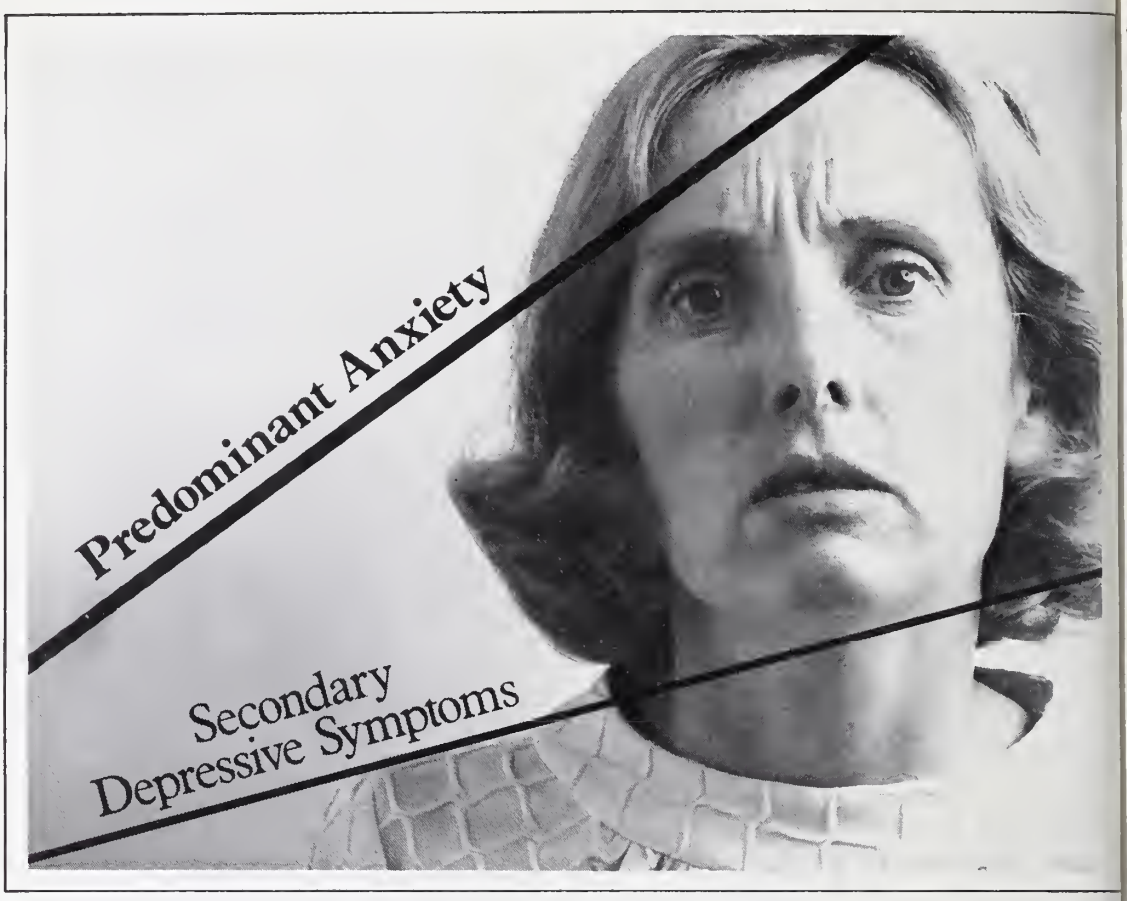
OF VIRGINIA

Virginia Medical Monthly

January, 1974 Volume 101



This psychoneurotic often responds

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

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When you determine that the depressive symptoms are associated with or secondary to predominant anxiety in the psychoneurotic patient, consider Valium (diazepam) in addition to reassurance and counseling, for the psychotherapeutic support it provides. As anxiety is relieved, the depressive symptoms referable to it are also often relieved or reduced.

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Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

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Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

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These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

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Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening in patients with recurring insomnia or poor sleeping habits and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults*: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients*: 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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The Weight of Professional Opinion

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These professional and trade organizations are united in supporting antisubstitution statutes and regulations:

The American Academy of Dermatology

The Board of Directors of the American Academy of Family Physicians

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The Committee on Drugs of the American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the American College of Obstetricians and Gynecologists

The Board of Regents of the American College of Physicians

The Board of Trustees of the American Dental Association

The Board of Trustees of the American Medical Association

The American Psychiatric Association

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage interprofessional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

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The Virginia
MEDICAL MONTHLY

January, 1974
Vol. 101, No. 1
Whole No. 1460

Guest Editorial . . . .

The FDA Reversed

THE EFFECTIVENESS of the non-absorbable sulfa drugs in treating certain intestinal disorders, as well as their efficacy in suppressing the coliform bacteria of the large intestine preparatory to large bowel surgery, is well known. Their usage for the latter purpose was reported over three decades ago by Firor, Poth, and others. The late Edwin P. Lehman, Professor of Surgery at the University of Virginia, and Harry Lee Archer of Charlottesville in 1943 reported thirty-six patients in whom the bowel had been prepared in this manner prior to large intestinal resection.

The enviable record achieved by American surgeons in primary colon resection can in large measure be attributed to the continued employment of this type of medication combined with mechanical cleansing. The safety of these preparations has been a real plus factor. The manufacturers have stated that they are unaware of any serious adverse effects. Other drugs are even more effective in suppressing the coliform flora, but are much more toxic and dangerous. Serious complications from them, including death, have been reported.

It came as a complete surprise, when in the fall of 1972, the FDA suddenly discontinued their approval of these drugs based on the somewhat flimsy and capricious reason that they were "less than effective". No prior warning was received by the medical profession or the manufacturers (Merck, Sharp & Dohme). The very phrase "less than effective" reveals clearly their abysmal failure to understand the problem. Ironically, after this arbitrary withdrawal of the safe, non-absorbable sulfas, the drugs that remained for the surgeon to employ in bowel preparation were toxic and dangerous.

In January of this year the Council of The Medical Society of Virginia discussed not only the withdrawal of the non-absorbable sulfa preparations but also the unjustified discontinuation of a number of other useful medications. The suggestion was made that all physicians contact members of our Congressional delegation in Washington requesting their aid. Their response

was uniformly enthusiastic. The Editor of the Virginia Medical Monthly wrote an editorial decrying such unwarranted acts, and concern was expressed by the pharmacists of the State who rallied behind us.

It was rewarding to be informed recently by the offices of Congressmen Whitehurst and Downing that the FDA had rescinded its previous action with reference to the sulfa drugs in August of this year, thus permitting them again to be prescribed. The Medical Director of Merck, Sharp & Dohme has stated that these drugs should be in full production again in October. A few pharmacists still have small supplies available, having had an abundance on hand when the discontinuation edict was pronounced.

In a small way this represents somewhat of a victory over Federal Bureaucracy and should give encouragement to physicians to continue to attack in a uniform and cooperative manner when the cause is worthwhile. It must be remembered that not over two percent of the Federal committee making these decisions are practicing or clinical physicians. This limited success indicates that by concerted action, especially with Congressional help, it may be possible to force the FDA to rescind unwarranted withdrawal of other needed drugs.

Charles E. Davis, Jr., M.D.

810 Medical Tower
Norfolk, Virginia 23507

Carcinoma of the Ovary. Radiation Therapy Experience

EDMUND M. BRODIE, M.D.
GERALD K. LIMBER, M.D.
E. RICHARD KING, M.D.
Richmond, Virginia
EDGARDO MARTINEZ, M.D.
Norfolk, Virginia

Between 1961 and 1968 seventy-five patients with the diagnosis of cancer of the ovary were referred to the Radiation Therapy Department of the Medical College of Virginia for consultation and treatment. This paper presents a study of the case material and survival data.

THE AMERICAN CANCER SOCIETY estimates 10,500 persons will die from cancer of the ovary in 1973. This malignancy currently ranks fifth in female cancer mortality after breast, colon, uterus, and lung. Although the death rates from colonic and uterine cancer have decreased in recent years, ovarian cancer rates have been increasing (the death rate today is 2½ times what it was forty years ago).[9] Reasons given for the poor prognosis include the insidious onset and therefore late diagnosis. Unless the patient is "fortunate" enough to have an encysted tumor, she usually presents to a physician with vague non-specific complaints of nausea, constipation, abdominal cramps, and/or bloating. If cancer is present, these symptoms and signs mean Stage III disease. Although the staging of the International Federation of Gynecology and Obstetrics[8] is widely accepted, the distinction between tumors penetrating the ovarian wall versus those confined within the ovary is encouraged since the prognosis of these two types is so different. To detect the disease earlier some authors suggest more frequent use of cul-de-sac aspiration, laparoscopy, and even laparotomy to evaluate the persistent lateral pelvic masses. The treatment includes surgery (usually a total abdominal hysterectomy and bilateral salpingo-oophorectomy), radiation therapy (mega-voltage external beam and/or radioactive gold), and chemotherapy (melphalan or cyclophosphamide).[4] Prolonged survival only occurs if the tumor volume is adequately excised by the surgeon. Postoperative radiation may cure if the residual tumor mass is minimal and localized to the pelvis. However, the addition of chemotherapy is needed to control more advanced diseases.[6]

BRODIE, EDMUND M., M.D., *Radiation Therapy Resident, Medical College of Virginia.*

LIMBER, GERALD K., M.D., *Surgical Pathology Resident, Medical College of Virginia.*

MARTINEZ, EDGARDO, M.D., *Radiology Resident, DePaul Hospital, Norfolk.*

KING, E. RICHARD, M.D., *Chairman, Division of Radiation Therapy, Medical College of Virginia.*

This study was supported in part by the National Cancer Institute Training Grant #9871 and in part by the American Cancer Society Clinical Fellowship #3020.

Methods and Materials

During the years 1961 through 1968, inclusive, seventy-five patients with a diagnosis of ovarian malignancy were referred to Radiation Therapy at the Medical College of Virginia for evaluation and treatment. The year 1968 was chosen in order to have at least a

three year follow-up. These patients were nonresectable with seeding, spillage, and/or extension to surrounding organs. Only patients having coelomic epithelial neoplasms were considered for final analysis. Tumors of other origin such as granulosa-theca, dysgerminoma, malignant teratoma, and arrhenoblastoma were discarded because they differ from coelomic epithelial neoplasms in their response to radiotherapy. Those tumors eliminated accounted for 20% of the patients selected by the clinical criteria. Other patients were excluded because the histological material available did not permit a positive diagnosis of a specific primary ovarian neoplasm. Forty-five patients were evaluated.

The Tumor Classification used is basically that published by Scully[10] who modified it from the International Federation of Gynecology and Obstetrics Classification[5] and the tentative World Health Organization scheme. These schemata attempt to group ovarian neoplasms both as to their morphology and to their histogenesis while still maintaining separate categories for those tumors with prognosis or therapy different from the rest. Our classification differed in that we combined the endometrioid and the clear cell ("mesonephric") carcinomas as there is evidence that clear cell carcinoma is a variant of endometrioid carcinoma.[10] In addition the two were found to co-exist in some cases. All patients included had fully malignant neoplasms. The criteria for malignancy were those most generally accepted: *i.e.*, the degree of nuclear atypia, piling up of cells, mitotic activity, and stromal invasion or metastasis. The staging used was that of the International Federation of Gynecology and Obstetrics.[5] Most patients were staged retrospectively from written descriptions in hospital charts. The radiation given to the above tumors was megavoltage in the form of 2000-3550 rads to the entire abdomen and a total of 4000-5000 rads to the pelvis at a dose of 100-200 rads a day about five times a week (depending on the size of the field and patient tolerance). Intraperitoneal Thiotepa* at time of surgery was used by a number of referring physicians.

Although many of the patients were staged prior to being sent to Radiation Therapy, in some cases retrospective staging was necessary. Table 5 shows the staging system used.

TABLE 5

Staging for Carcinoma of the Ovary (Adopted by the International Federation of Gynecology and Obstetrics and the American College of Obstetricians and Gynecologists)

Stage I	Growth limited to ovaries IA Unilateral IB Bilateral IC One or both ovaries plus ascites with malignant cells
Stage II	Growth involving one or both ovaries with pelvic extension IIA Extension and/or metastases to the uterus and/or tubes only IIB Extension to other pelvic tissues
Stage III	Growth involving one or both ovaries with abdominal dissemination (omentum, the small intestine and its mesentery)
Stage IV	Growth involving one or both ovaries with distant metastases outside the peritoneal cavity

Results

Seventy-five percent of the patients were white and twenty-five percent were black. There were seven stage I patients, 10 stage II patients, 27 stage III patients, one stage IV patient, and one whose staging was uncertain since the information in the chart was insufficient. The age distribution indicates a peak incidence between 46 and 70 years of age with 64% of the patients lying within this range. Serous cystadenocarcinoma (felt to arise from tubal metaplasia of coelomic epithelium) was found in 19 patients and comprised the majority of cases reported. Mucinous cystadenocarcinoma (thought to arise from endocervical metaplasia of coelomic epithelium) involved four patients. Fourteen patients had endometrioid and/or clear cell carcinoma, and an addi-

*Thiotepa (n,n'',n'—triethylenethiophosphoramide) produced by Lederle Laboratories, Pearl River, New York.

tional eight patients were either undifferentiated or unclassifiable carcinomas. The mean age of patients with serous carcinoma was 51 years; for those with mucinous carcinoma it was 53 years, for endometrioid 57 years, and for undifferentiated carcinoma it was 58.8 years.

Survival data are shown in Table 1. As

Table 1

Serous	41.2	(19)	Stage I	35.6	(7)
Mucinous	30	(4)	Stage II	25.8	(10)
Endometrioid	22.8	(14)	Stage III	28.7	(27)
Undifferentiated	11.5	(8)	Stage IV	1	(1)

This table shows the mean survival in months of each histopathology and each stage. The numbers in parentheses are the numbers of patients.

would be expected patients with stage I disease had the longest survival. The survival for stage II and stage III was almost the same. Of the histological types serous cystadenocarcinoma had the longest mean survival followed by endometrioid. Tables 2 and 3 present Thiotepa survival data. Stage I and stage II pa-

Table 2

Stage	Thiotepa	No Thiotepa
I	8 (1)	40 (6)
II	19.8 (7)	40 (3)
III	27.8 (10)	27 (17)
IV	— (0)	1 (1)

This table compares the mean survival in months for a given stage with whether or not the patient received thiotepa. The numbers in parentheses represent the number of patients.

Table 3

	Thiotepa	No Thiotepa
Serous	35 (9)	47 (10)
Mucinous	— (0)	25 (4)
Endometrioid	14 (8)	35 (6)
Undifferentiated	4 (1)	12 (7)

This table compares the mean survival in months for a given histology with whether or not the patient received thiotepa. The numbers in parentheses represent the numbers of patients.

tients who did not have Thiotepa had a longer mean survival period than treated patients. However, since the numbers of patients in these two groups are so small, it is difficult to be sure if the difference is significant. Stage III had more patients (since people with advanced disease usually receive chemotherapy), and Thiotepa does not seem to make a significant difference in the survival of these patients. Patients with serous cystadenocarcinoma and endometrioid (and/or clear cell) carcinoma who did not receive Thiotepa also had a longer mean survival. The absence of Thiotepa in endometrioid patients seemed to more significantly affect prognosis than in patients with serous carcinoma. This observation is supported by data which includes only patients who died during the study (previous tables also included patients lost to follow-up) and shows that patients with endometrioid cancer lived four times as long if Thiotepa was not used. Table 4 which shows five-year survival rates gives serous carcinoma a 26% five-year

Table 4

Five Year Survival Rates
(Cutler Method in Parentheses)

	Overall 5 Year	Stage III 5 Year
Serous	26% (64%) [19]	33% (50%) [9]
Endometrioid	7% (17%) [14]	13% (21%) [8]

Table showing five year survival rates. Numbers in parentheses are survival figures using the Cutler method. Numbers in brackets are numbers of patients.

survival and endometrioid carcinoma a 7% five-year survival rate. Patients lost to follow-up were considered to have died at that time. Because some of the patients in this study did not return for regular follow-up visits and not all patients were given the chance to be followed for an equal amount of time, we submitted the data to the analysis used in Cutler and Ederer's paper on the effective use of the life table in analyzing survival data[2] where one includes such factors as the number at risk, being lost to follow-up, withdrawing alive, etc. Table 4 also shows a corrected survival figure of 64% five-year survival for serous carcinoma and a 17% five-year survival for endometrioid carcinoma.

Discussion

The age distribution in this paper is supported by the literature; most cases of ovarian

malignancy occur in people between 40 and 59 years of age except for germ cell tumors which are seen mainly in people less than 30 years old.[1] The literature states that there is no significant difference in incidence between the races.[8] The high percentage of white patients in this study might be explained by the large number of referred patients from local private hospitals. The incidence of the various histological types is in agreement with other series. The literature reports serous carcinoma as accounting for 45% of all ovarian malignancy, mucinous for 10%, endometrioid for 15%, dysgerminoma for 4%, and undifferentiated and unclassifiable carcinoma for 5-10%.[1] The 12% rate for undifferentiated carcinoma in this paper is higher than most series probably because of the larger number of difficult cases referred from outside hospitals. Of the nonepithelial tumors in this series, dysgerminoma and malignant teratoma stand out as being particularly prevalent, while granulosa-theca cell tumors are relatively rare. These data are the reverse of what one would expect from the general population probably because of the nature of the population seen by radiotherapists. Drukker and Hodgkinson report that of 196 patients seen between 1960 and 1969, at time of diagnosis, 129 patients had stage III disease, 28 had stage I, 21 had stage IV, and 18 had stage II.[4] Our population was also primarily stage III. Reasons for the few stage I patients would include the fact that the disease is often far advanced at time of diagnosis. Also the surgeon might think the disease was completely removed at time of surgery and thus not refer the patient for radiation. Far advanced cases (Stage IV) are often treated primarily with chemotherapy and not referred for radiation.

The literature supports the finding in this paper that intra-peritoneal Thiotepa at time of surgery is not the ideal means of employing this chemotherapeutic agent[7] especially when treating stage I and stage II patients.[3] The uncorrected five-year survival rate of 26% for serous carcinoma is approximately the same as the 27.5% figure given by Ackerman.[1] However, Santesson and Kottmeier report a 55% five-year survival for endometrioid carcinoma, a 47% five-year rate for mucinous carcinoma, a 37% five-year survival for "mesonephroid", and an 18% five-year survival rate for serous carcinoma. Our corrected five-year survival figure for endometrioid carcinoma is 17%. The variation in quoted survival rates for serous and endometrioid carcinoma is probably a matter of difference in differentiation and stages of different patient populations. Our corrected survival rate for serous carcinoma (64%) is high. However, the survival rates based on life tables are usually higher because not all patients die as soon as they are lost to follow-up, and even patients who are not followed a full five years can contribute much useful information.

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Reprints from the Division of Radiation Therapy, Medical College of Virginia, Richmond, Virginia 23298.

Radiation Therapy
Medical College of Virginia
Virginia Commonwealth University
Richmond, Virginia 23298

LET'S REMINISCE!

Physicians' Taxes of Louisville and Richmond.

We have been amused at statements made in a number of our exchanges during the past few years—reporting first one, and then another city that imposes a tax upon physicians. Now Louisville doctors are to be taxed according to their receipts—no exception being made of those collecting less than $2000, on whom $10 is imposed. The tax rises all the way to $100 on those whose income is $10,000. The Louisville medical societies intend testing the legality of the ordinance.

Here in Richmond, we are worse off. A State tax of $10.75 is charged all who have practised under five years, and $25.75 for all those who have practised five years and over. In addition, the city license tax is the same as that fixed for Louisville. No allowance is made for the vast amount of charity work done by the doctor. In addition to these license fees, the doctor has to pay the usual income tax on all sums received over $1,000 a year. So that the Richmond doctor is taxed twice on his income.

(Virginia Medical Semi-Monthly, Vol. I, July 24, 1896)

Suggestion in Anesthesiology

HAROLD CARRON, M.D.
Charlottesville, Virginia

With sympathy, understanding, and a little imagination the anesthesiologist can help considerably in achieving a happy outcome from surgery.

PAIN AND FEAR are among the major motivational factors causing the patient to seek medical care. The anxiety associated with the course and outcome of an illness is often a plea for emotional support. In seeking reassurance, the apprehensive patient responds to those suggestions which allay his fears. When it becomes necessary for the patient to accept the surgical procedure as a consequence of his illness, his anxieties increase and his capacity to receive and act upon suggestion may be enhanced. The anesthesiologist can use this heightened suggestibility to relieve pre-operative anxiety and post-operative pain.

Dehumanization and deprivation are added to the apprehension of the pre-surgical patient on entering the hospital.[1] He has the feeling of being abandoned in a sterile, hostile atmosphere. His signature on the treatment permit in the admitting office deprives him of future decisions relative to his own medical care. His valuables and his clothing are removed from his presence. He is further dehumanized by a gown the sole purpose of which is to provide easy access to every orifice. When his blood and urine are drawn, those orifices are now violated. Multiple examinations by various physicians following the recording of the past medical, family and social history remove even that aspect of his privacy. Prior to surgery his dentures, rings, religious medals and other items of past solace are removed. At this point, anxiety may produce depression or emotional dissolution.

With this response on part of an adult, the emotionally unprepared child subjected to the same treatment may find the hospital experience terrifying. He is abandoned in a cold atmosphere of unfamiliar faces by his parents and from that point on subjected to multiple, painful ministrations.

The anesthesiologist should appreciate the emotional response to the physical illness of the surgical patient. The pre-anesthetic interview and consultation is the time for evaluation of psychological as well as physiological derangements. The pre-operative visit provides the opportunity to help the patient by detailed discussion of the surgical and anesthetic procedures and to use suggestion as a powerful psychotherapeutic tool. Careful emotional preparation will help the patient approach his operation without anxiety and fear. In his interaction with the patient, it is essential that the anesthesiologist assume a reassuring and confident attitude and not communicate his own fears and anxieties to the patient.

Two-way communication can be instantly established by shaking hands with the patient and sitting down to talk. The patient immediately senses friendliness, kindness and security. Nonverbal communication as well is powerful in making suggestions more acceptable. Words should be carefully chosen to affect the subcortical level of verbal intercourse. The tone of voice should show concern and sincerity, dignity, gentleness and confidence. The patient's cooperation, understanding and interest should be solicited. It is always easier to secure acceptance of a positive suggestion rather than a purely negative

From the Department of Anesthesiology, University of Virginia Medical Center.

one. Acceptance of one suggestion by the patient makes for easier acceptance of succeeding ones. How much more important it is, for example, to suggest to the crying child when first seen that he's frightened and upset rather than to criticize him for his non-social behavior.

The anesthesiologist should question the patient about his fears of anesthesia and attempt to allay them. Most patients are fearful that they will either awaken during the operation or not awaken at the end. The expected effects of pre-anesthetic drugs should be described as should the experience during preparation for, and induction of, anesthesia. The patient should be impressed with the fact that he will be constantly attended and observed to prevent any change of physiology during surgery. It is important not to disparage the patient's remarks about previous untoward or supposed drug reactions. Levity has no place in the physician patient relationship. The patient should also have described to him what to expect post-operatively in the recovery room—lights, tubes, machines, ventilators, and noise.

In preparation of the patient for the anesthetic procedure, the patient's arm should be held firmly while applying the blood pressure cuff. A sloppy technic at this point implies a lack of professional skill. Loud noises, banging of instruments, or unnecessary conversations should be avoided. During induction one should suggest relaxation, sleep, and confidence in the surgical outcome. During the insertion of needles, catheters, and other orificial penetrations, distraction technics should be utilized. These can be the suggestion of breath-holding during venipuncture, involvement in conversation during painful ministrations, or requesting the patient's assistance in the application of monitoring devices.

In the operating room, the patient should be informed that the pulse and blood pressure are being taken and that other monitors are being attached. Easy induction and quiet emergence should be suggested to the sedated patient. Again, careless conversation should be avoided. Cheek[2] in 1966 suggested that the patient in deep surgical anesthesia may hear sounds that are meaningful to him, and he interprets these sounds and words in their literal meaning and as pertaining to himself. Under hypnosis it has been possible, with the help of so-called idiomotor questioning technics, to recover memories of events that occurred while the subject was under the influence of chemo-anesthesia. This stresses the dire consequences of provoking dangerous reactions in the patient by thoughtless remarks and is probably the basis for bad dreams under anesthesia. Modern paralysis-unconsciousness anesthetic techniques lend themselves to awareness under anesthesia. Conversely, appropriate suggestions by the anesthetist could also have potent effects. The importance of what the patient subconsciously hears during an operation under general anesthesia is obvious and implies that a very strict discipline should be imposed on the whole surgical team. All conversation in the operating room should be conducted in a way that presumes a patient is fully awake and aware. Careless conversation in the presence of the anesthetized patient could conceivably be the basis for nuisance malpractice suits.

Intra-operatively, suggestion can be as effective as sedation in enhancing the effect of local anesthetics and epidural and spinal anesthesia. A calm, relaxed anesthesiologist can communicate his confidence in the effectiveness of the anesthetic procedure to the patient by implication alone.

Suggestion is a valuable method of inducing anesthesia or achieving basal anesthesia in children. The sound of the voice and the tone or quality may in itself have an hypnotic influence. Infants understand non-verbal communications such as motions or gestures. Stroking of the child, holding him in the arms and rocking, all have a soothing influence since they mimic the maternal reactions to the child's fears and apprehensions. Older children respond well to games, while reassurance that the anesthetist understands the child's fears will often serve to allay them. Suggestion that a

child close his eyes and visualize a recent television program will often provide adequate distraction for the performance of minor manipulative procedures, or that distraction can be advanced into the hypnotic state by further suggestions of relaxation, sleep, and anesthesia.

In the post-operative period, suggestion can supplement or replace pain-relieving medication. Beecher[3] has stated that "all pain is a combination of the physical sensation and psychic reaction to that stimulus. There are qualitative as well as quantitative differences in the role of each factor. Pain is a perceptive phenomenon which can be altered, controlled, diminished or abolished according to the emotional needs of the individual." Response to pain is a matter of individual threshold. Perception and tolerance can be influenced by suggestion. Strong emotion can eliminate pain. Distraction of attention may exclude many sensations, including pain, from consciousness. Where the organic bases for pain override the psychic or emotional aspects, however, relief provided by suggestion may be less effective. The allaying of apprehension relative to the surgical outcome can assist in elevation of the post-operative pain threshold and decrease the dosage of narcotics required for pain relief. Such suggestions as splinting the chest or abdominal muscles prior to cough will diminish pain. A major portion of post-operative pain results from muscle spasm and suggestions relating to relaxation and deep quiet breathing will increase the patient's comfort. Suggestions for the diminution of nausea and vomiting will decrease post-operative pain. The patient should be advised to avoid precipitating factors such as rapid changes of position while under the influence of narcotics, turning the head rapidly, or rapid shallow breathing. Tidal volume ventilation can be increased by suggesting deep breathing synchronous with "in-out" verbalization by the anesthetist with gradual lengthening of the inspiratory phase.

While the "art of medicine" may be another term for suggestion, concern for the patient's apprehensions, explanation of the procedures to be performed, and sympathetic transference of the anesthetist's confidence in his own competence can facilitate anesthetic induction and recovery. Through suggestion the effects of sedation can be engendered and cooperation by the patient enhanced for his own recovery.

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Department of Anesthesiology
University of Virginia Medical Center
Charlottesville, Virginia 22901

Late Osseous Metastasis from Carcinoma of the Cervix

A Suggestion of a 26 Year Recurrence

JOSEPH E. MADDOX, M.D.
JOHN L. MORAN, M.D.
LEROY J. DIERKER, JR., M.D.
Richmond, Virginia

A case report of an apparent 26 year metastatic recurrence of a Stage 11-A squamous cell carcinoma of the cervix treated initially by radiation is presented. There was no evidence of a central recurrence at the time of her death. The possibility of a radiation-induced tumor is entertained.

THE FIVE YEAR CURE RATE has become a standard for evaluating various forms of oncologic therapy. Theoretically, one is comparing the survival of treated individuals for that interval of time with non-treated individuals who would demonstrate the natural history of the disease. In practice this is not done and five year survival rates are generally a simple expression stating percentage survivors from an initial group. The natural history of the disease is not considered, thereby limiting the value of the five year expression.

Delayed recurrence of malignancy appears to be an expression of biologic behavior and is characteristic of some tumors such as breast or granulosa cell tumors of the ovary. Late recurrence of squamous cell carcinoma of the cervix following radiation therapy is considered an uncommon event although clinical experience sometimes suggests that a predictable late recurrence rate may exist. The following case is presented out of interest because of the unusual interval between initial therapy and evidence of recurrence. It is of interest, also, that the recurrence was not central but was metastatic.

From the Departments of Obstetrics and Gynecology and Orthopedics, Health Sciences Division, Medical College of Virginia, Virginia Commonwealth University.

Case Report

In February, 1941, Mrs. R. J., a 70 year old black female, gravida 8, para 7, abortus 1, was diagnosed as having carcinoma of the cervix. Pelvic examination demonstrated a cervical lesion with extension onto the vagina compatible with our present F.I.G.O. classification of Stage II-A. There was no evidence of metastatic disease. The patient received approximately 2000 rads external x-ray and 7790 mgm hours of radium to the uterine cavity, cervix and vagina. The exact details of the therapy are no longer available. Following her initial therapy in March to May of 1941, she did well until February, 1945, when she was treated with 25 mgm radium, wrapped in bandage, placed in the vagina for two hours. The reason for this is unknown as the patient was asymptomatic. She continued to do well until 1966, when she was first seen in the Medical College of Virginia Outpatient clinic. At that time she complained of aching pain in the right hip and thigh with intermittent swelling in these areas for one year. On numerous visits the physical examination, pap smears, x-ray and other laboratory data remained normal. An attempted lymphangiogram was unsuccessful.

In August 1966, she had a cholecystectomy

because of chronic cholecystitis. The pelvic contents were reported to be free of tumor, but numerous adhesions were noted in the pelvis and remainder of the abdomen. In September, 1967, the first x-ray evidence of a lytic lesion of the right ilium was reported. In February, 1968, the patient underwent an exploratory laparotomy in another hospital for persistent low back, right hip and thigh pain, at which time the right kidney was described as being "one-third normal size" and the right ureter was not palpable. The previously mentioned pelvic adhesions were again noted, but there was no evidence of recurrent tumor. An incidental appendectomy was performed. The described pain and swelling became worse, interfering with ambulation, until she became bedridden two weeks prior to admission. She was admitted to the MCV Hospital on 5/21/68 because of increased destruction of the right ilium, the persistent pain and swelling of the right thigh, a 40 lb. weight loss over two to three years, and a three day history of nausea and vomiting.

Physical examination on admission revealed a 95 lb. female with normal vital signs and non-pitting swelling of the right thigh with decreased range of motion of the right hip due to pain. Pelvic exam revealed an atrophic, narrowed vagina and an atrophic cervix. The bimanual examination was normal. All laboratory data including calcium, phosphorus, and alkaline phosphatase were normal. Pap smears and multiple biopsies of the cervix and upper vagina were normal. Bone survey films failed to show additional lesions. An IVP and retrograde pyelogram showed a nonfunctioning right kidney with obstruction at the level of the iliac bone lesion. A suspicious right inguinal lymph node was biopsied and showed chronic lymphadenitis. Because of possible sarcomatous changes from irradiation, an open biopsy of the right ilium was performed which revealed squamous cell epithelioma of the bone (Fig. 1). The periosteum was found intact at surgery. The tumor mass was greyish, soft, and relatively avascular with erosion of the cortex along most of the inner aspect of the right ilium.

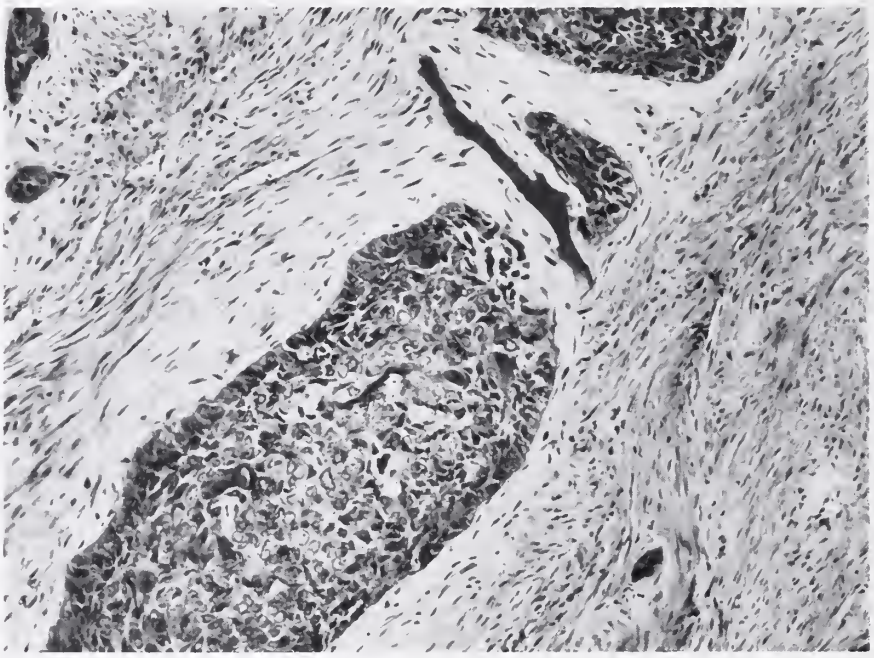

Fig. 1

Following this diagnosis, the patient received CO^{60} external radiation to the right pelvis for a total dose of 4000 rads. During the course of

radiotherapy she noted gradual marked, but incomplete relief of her pain. She was discharged on 7/12/68, ambulatory with the aid of a walker.

A retrospective review of the x-rays (Fig. 2) showed the destructive bone process to be present as early as February, 1967, but films prior to this time failed to demonstrate the lesion.

Figure 2

The patient subsequently noted progression of her pain which became severe enough to require chordotomy in December, 1968, which failed to relieve the pain. She was maintained on codeine until the time of her death on 5/20/69. An autopsy was not performed.

Discussion

Late recurrences of carcinoma of the cervix are those which occur after the traditional five year period following primary therapy. Of the recurrences of carcinoma of the cervix, 55 to 65% will be diagnosed during the first year, 80 to 98% by the end of five years. An additional 1 to 2% will become evident between five to 10 years, only 0.5% recurring after 10 years.[1] Late recurrences are an uncommon event regardless of the type of primary therapy. Recurrences in patients who were treated initially by either surgery or radiotherapy occur with nearly equal frequency for the first five years. Although some studies[2] noted all surgical recurrences within the first three and a half years, other groups[3] found as many as 9.4% recurrences after five years. Of the more than 40 recurrences which have been reported as greater than 15 years, only one of these was treated initially by surgery.[4]

The reason for predominance of the radiotherapy cases recurring after 15 years is speculative. Whether these represent true recurrences of the primary tumor or a malignant change induced by the radiotherapy is a moot point. Patten[5] found that 22.4% of surviving patients treated by radiotherapy developed a dysplasia in the vaginal and cervical mucosa which was distinct from the initial radiation effect. This dysplasia was noted as early as four months and as late as 17 years after completing therapy. It was also found to progress to carcinoma-in-situ and invasive cancer in one case.

In the case presented the possibility of an unrecognized primary tumor exists but none was evident by the time of her death, nearly a year after the lesion was noted. Osseous metastases occur in 0.8 to 23% of the cases of carcinoma of the cervix.[6] These metastases are typically lytic lesions which produce bone pain, the most common presenting symptom of the recurrence. The sites most commonly affected are the lumbar vertebrae and the pelvis. Van Herik[7] reported a 25% incidence of bony metastases in his cases of greater than 10 years recurrences treated initially by radiotherapy. Osseous metastases carry an ominous prognosis, as Carlson noted a five year survival rate of 0.8% after the metastases became evident.[8]

Summary

A suggestion of a 26 year recurrence of carcinoma of the cervix is presented in a patient treated initially by radiotherapy. A brief review of late recurrences treated both by surgery and radiotherapy follows.

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(Advertisement in Virginia Medical Semi-Monthly, Vol. 3, August 12, 1898)

Two Letters by Dr. James Lawrence Cabell

WILHELM MOLL, J.D.
Charlottesville, Virginia

These letters provide a brief glimpse of Dr. Cabell and of medicine in Virginia in 1879.

THE MEDICAL LIBRARY was fortunate in acquiring two letters by Dr. James Lawrence Cabell, a former member of the faculty of the University of Virginia School of Medicine, which are reproduced below. The letters were addressed to Dr. Cornelius Rea Agnew (1830-1888) of New York City. They bear the dates of November 1, 1879, and December 15, 1879.

At the time these letters were written, Dr. Cabell had served on the medical faculty for forty-two years. Born in Nelson County in 1813, Cabell studied at private schools in Richmond and at the University of Virginia. He received his medical degree from the University of Maryland in 1834, and joined the medical faculty of the University of Virginia in 1837 as professor of anatomy, physiology, and surgery. He remained on the faculty until his death in 1889. During his lifetime, Dr. Cabell won many honors. Among other things, he was the first president and organizer of the National Board of Health created by an Act of Congress on March 3, 1879. In that year, he was also the president of the American Public Health Association. During the Civil War, he was in charge of the Confederate hospitals in Charlottesville. Wyndham Blanton, Virginia's great medical historian, wrote that "never before or since has so gifted a man held a medical chair in the University."

Dr. Agnew was another outstanding medical personality of the 19th century. He was one of the founders of both the American Ophthalmological Society (1864) and the American Otological Society (1868) and served as president of the American Ophthalmological Society from 1873 until 1878. For many years, he held the professorship of ophthalmology and otology at the College of Physicians and Surgeons of New York. Agnew is considered one of the great surgeons and medical specialists in an era in which specialization and specialty training were just beginning to be developed.

The first letter of November 1, 1879, was written in Charlottesville on "The American Public Health Association" stationery. It mentions the important forthcoming meeting of the Association in Nashville, Tennessee, in November of that year where Cabell hoped to meet Dr. Agnew.

The second part of the letter deals with a patient, a young lady, with an eye disease for which a cure is sought. Dr. Cabell describes the condition as "neuralgia of the eyes". He writes that he treated the lady first with atropine which, however, aggravated the symptoms. Later Calabar Bean was used, as an "experiment". The latter treatment apparently helped for some time, but no permanent cure was effected. Dr. Agnew's answer to this letter is not known. Apparently it was not helpful because in his second letter of December 15, Cabell again queries Agnew about his patient.

The correspondence is interesting for a number of reasons. First, it sheds some light on the manner in which a medical practitioner in a small, rural, and isolated community in central Virginia tried to obtain information on difficult medical problems from outstanding authorities. Secondly, it illuminates the eclectic and experimental use of drugs at a time when the origin of many diseases and their treatment were not known.

Dr. Cabell was at loss to explain the illness of his patient. It might have been intermittent

MOLL, WILHELM, J. D., *Professor and Director, Medical Library, University of Virginia.*

attacks of narrow-angle glaucoma, a condition rarely found in young people, or extraocular muscle imbalance. According to Blanton, ophthalmology as a specialty was just being established in Virginia at that time with the organization of the Richmond Eye, Ear, and Throat Infirmary and Dispensary in 1879. While the dilation of the pupils through atropine worsened the condition, the constriction of the pupils with Calabar Bean did provide temporary relief. Calabar Bean, a climbing plant of Africa, also known as "ordeal nut", contains physostigmine, an alkaloid, which has been used as a miotic. The use of miotics in the treatment of glaucoma was introduced in 1876 by Ludwig Laqueur (1839-1909) in Germany.

According to the December 15, 1879, letter, Dr. Agnew inquired whether the young patient had any uterine trouble. This inquiry might lead to the conclusion that Dr. Agnew considered the symptoms to be related to a hysterical disorder. During the past century, physicians frequently ascribed psychosomatic illnesses to uterine displacements. Dr. Cabell, however, assured his correspondent that the patient had no "uterine trouble" and was in perfect health except for "this pain in the eyes on using them."

The following is the text of the two Cabell letters:

LETTER OF DR. JAMES L. CABELL, CHARLOTTESVILLE, TO DR. C. R. AGNEW, NEW YORK, OF NOVEMBER 1, 1879

THE AMERICAN PUBLIC HEALTH ASSOCIATION,

University of Virginia, Nov. 1, 1879

Dear Dr. Agnew

Shall you not find it convenient and agreeable to attend the ensuing meeting of the Public Health Association in Nashville Nov. 18th-21st? The meeting is expected to be one of extraordinary interest in view of the fact that the Sanitary Council of the Mississippi Vally [*sic*], the State Medical Society of Tennessee, the National Board of Health, and representatives of Steamboat & Rail Road lines in the South will be there to join in conference on the subject relating to the prevention of future epidemics of Yellow Fever. Moreover the National Board of Health will seize the occasion to collect, as required by law, the opinions & recommendations of the leading sanitarians of the country as to a plan for a permanent National Health Organization, in order to make a report on the subject to the next congress. I earnestly beg that you will be there if it is possible for you to leave your patients for a week. I would also beg that you stop a day with me *en route* but I expect to be obliged to go to Norfolk a few days beforehand. I shall be most happy to have you stop with me on your return when, too, my sister Mrs. Alexander will be at home. Until then she will be, as she now is, with her son Henry at Hampden Sidney.

Can you suggest any palliative or curative for neuralgia of the Eyes in a young lady who has no anomaly of refraction, but in whom decided pain is felt often without any exercise of the eyes & is decidedly aggravated by such exercise. Atropine employed with a view to test the refraction after paralyzing the accommodation somewhat aggravated the symptoms which induced me to make an experiment with Calabar Bean. The effect was at first decidedly beneficial, so much so that after using it some weeks the patient was sanguine as to a perfect cure, but in this she has been disappointed. The ophthalmoscopic appearances are not abnormal. During the time that the patient improved under the use of the gelatine discs of Calabar Bean I directed her to read for a few minutes morning & afternoon and increase the amount of exercise very gradually. This was done with apparent benefit for a time but she has fallen back and I am at a loss what to do. If you could give me a hint I should be greatly obliged.

Yours faithfully
J. L. Cabell

Dr. C. R. Agnew
New York

LETTER OF DR. JAMES L. CABELL TO DR. CORNELIUS R. AGNEW OF DECEMBER 15, 1879

NATIONAL BOARD OF HEALTH,
University of Va., Dec. 15th 1879

Dear Dr. Agnew

Yours of the 11th ult. was received in Nashville to which it had been forwarded a day or two after I left home for Richmond & Norfolk which cities I was required to visit on official business, while *en route* to Nashville. Various & most urgent engagements have precluded an earlier acknowledgment of your letter in which you were kind enough to manifest some interest in the case of a young lady patient to which I had called your attention in my letter of Nov. 1st. You ask whether she has any uterine trouble. She assures me that she has none. She declares that since the first establishment of the catamenial function at the age of 13 she has been perfectly regular, and the flow is painless & of sufficient quantity. She avers that her general health is perfect & that she has absolutely no ailment except this pain in the eyes on using them. After paralyzing the accommodation I tested the refraction and found the eyes to be emmetropic. I do not think I can be mistaken as to this. I think I stated to you that for a time the use of Calabar Bean in the form of gelatine disks gave pretty decided but not complete relief. After using them for some weeks they ceased to have this effect. Atropine had previously aggravated the symptoms.

If you can suggest any thing likely to do good I shall be under obligations.

Very truly & cordially yours
J. L. Cabell

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Medical Library, School of Medicine
University of Virginia
Charlottesville, Virginia 22901

LET'S REMINISCE!

Vinegar to Sober-Up the Drunken Man.

It is said that the administration of a wine-glassful of vinegar, well diluted, will sober-up a drunken man in twenty minutes.

(Virginia Medical Semi-Monthly, Vol. 4, February 9, 1900)

Personality Development and Personality Disorders, with Emphasis on the Antisocial Personality

ANDRE P. DERDEYN, M.D.
Charlottesville, Virginia

Of personality disorders, the antisocial personality is the disorder with the most important and devastating implications for adult life. It is the most discouraging to treat psychotherapeutically. Factors influencing the development of this disorder during personality development and its relationship to other personality disorders is considered.

THE TOPIC OF THIS PAPER is the group of human behaviors termed the personality or character disorders and their relationship to normal personality development. To remind us of the place of the personality disorders in the arena of human behaviors, I would like to briefly recall the other major areas of psychiatric disturbance.[1]

People are described as psychotic when their mental functioning is sufficiently impaired as to interfere grossly with their capacity to meet the ordinary demands of life. The impairment may result from a serious distortion in their capacity to recognize reality. This definition includes the two areas of major mental illness, schizophrenia and manic depressive psychoses.

The neuroses manifest neither the gross distortion or misinterpretation of reality nor the personality disorganization of the psychoses, but are characterized by the presence of anxiety. Anxiety may be felt and expressed directly, or it may be controlled unconsciously and automatically by such mechanisms as hysterical paralyses, hysterical alterations of consciousness, phobias, or obsessive compulsive mechanisms. Generally these symptoms are experienced as distressing, and the patient desires relief.

The personality disorders have in common with the neuroses the absence of distortion or misinterpretation of external reality and of personality disorganization, but rather than the anxiety and symptom formation of the neuroses the personality disorders are characterized by deeply ingrained maladaptive patterns of behavior. These are life-long patterns often recognizable by the time of adolescence or earlier.

The dividing line between normal persons with their character traits and people suffering from personality disorders is vague, and the diagnostic terms are best reserved for those persons whose personality problems are consistently maladaptive, interfering importantly with love relationships and the ability to function adequately on the job.

All people affect fairly consistent character attitudes. Wilhelm Reich spoke of a person's chronic, characteristic mode of reaction as character armor.[2] This has to do with automatized techniques of handling situations and feelings which allow mastery at that moment while bypassing a high degree of anxiety and mobilization of the personality.

In stressful situations the armoring tends to increase, and in easier times it decreases. In persons considered to be suffering from disorders of personality, this mobility of the character armor of the healthier personality is re-

DERDEYN, ANDRE P., M.D., *Assistant Professor of Psychiatry, University of Virginia School of Medicine.*

Presented at the Culpeper Social Services Workshop, Graves Mountain Lodge, April 24, 1973.

placed by rigidity. This rigidity leads not only to less constructive and less adaptive responses to the environment, but also to decompensation of personality functioning of a degree not usually seen in normal or neurotic personalities. The decompensation observed in stress ranges from marked regression without signs of psychosis to frankly psychotic states.

First personality development and personality disorders will be treated generally and then there will be a focus upon one particular disorder, that of antisocial personality. Epidemiologic studies have established a poor prognosis for three conditions diagnosable in childhood: There are (1) severe mental retardation, (2) childhood psychosis, and (3) antisocial behavior. It has been found that antisocial personality begins to develop almost exclusively in childhood, and while not all of the antisocial children become antisocial adults, about half of them do, while all but about 5% of the rest continue to lead maladaptive lives in terms of alcoholism, chronic unemployment, and various degrees of mental illness, including a high incidence of schizophrenia.[3,4] It should be added that when there is chronic antisocial behavior in an adult, it almost always has continued from a relatively early childhood pattern.

Personality Development

The child at birth is at the mercy of his biological drives and, if he is healthy, he demands vigorously that his needs be met. He is capable of taking nothing into account but his own hunger or other discomfort, and at first has no faith that he will receive in due time whatever care he requires. He is not capable of waiting for any reason. The newborn begins life with his reactions governed by an internal principle according to which he welcomes pleasurable experiences and strives to reduce tension. He is thus considered to function by means of the *pleasure principle*.[5] It is natural for the young child to seek gratification of all his desires with urgency and complete self-indulgence, and it is the role of the parents in the process of socialization to meet certain of these needs as well as to impose restrictions according to the dictates of reality. These dictates of reality include the need to keep the child away from harm, to keep him from hurting others, and to lead him to the acceptance of the moral code and social customs. In these early stages of development the parents assist the child in the control of his drives and impulses.

Having the fulfillment of one's wishes lodged in external authority is synonymous with dependency and immaturity, and the whole of personality and character formation can be viewed in terms of remedying this situation and acquiring for the mature person the right to initiate and to judge his own actions.[6] This development requires a decrease in functioning according to the pleasure principle and an increase in functioning under the *reality principle*.[5] Function according to the pleasure principle means accepting as the overriding aim immediate and indiscriminate desires regardless of external conditions. Functioning according to the reality principle restricts, modifies, and postpones gratification in the interest of safety and of consideration to other people. Therefore, except for the young child, functioning according to the pleasure principle results in selfish, irresponsible behavior, while the development of functioning according to the reality principle is essential for social adaptation and the growth of law-abiding and social attitudes.

The child's advance from the pleasure principle to the reality principle implies a growing tolerance for the frustration of wishes, for their postponement in time, for inhibition of their aim, and for the acceptance of substitute pleasures. This advance from the pleasure to the reality principle is regarded by many people as the decisive factor in the process of socialization, its absence being the main reason for delinquent behavior. When things go well, acceptance of parental controls is fostered by the satisfaction of pleasing the mother, and such controls are internalized in both the ego and the super-ego. This process of internalization of parental standards and expectations, with the enhancement of functioning on the reality principle at the expense of the pleasure principle, all within a relatively stable, loving

environment, defines the conditions for optimal personality development.

The Personality Disorders

There are a number of aspects of development that may go wrong which are implicated in the development of personality disorders, particularly the most malignant, the antisocial personality. Current ideas about the psychopathology in delinquent behavior usually contain three elements related to the child's relationship to his parents.

1. The child feels significant emotional deprivation and strongly resents it.[7] There have been observations about the association between delinquency and the loss of a significant love object early in life by illness, abandonment, or death.[8] The child develops grief and depression and is thought to continue a restless, angry search for the love object, with resulting selfish and delinquent behavior.

2. The parents, especially the mother, are very often over-stimulating and inconsistent in their attitudes toward the child.[9] There is frequently a history of these types of difficulties occurring in the second year, of a break in the relationship with the mother either by depression, death or absence, or by a deterioration in the relationship in that the child's activity is interpreted by the mother as aggressive and hostile, and she becomes unable to serve as a loving, firm, and consistent model for the control of the more primitive behaviors.

3. The child's behavior represents a vicarious source of pleasure for a parent and is often an expression of the parents' unconscious hostility toward the child.[10] For example, a father who had rivalrous feelings toward his own brother, and was severely punished for his own hostile behavior, might unconsciously encourage one of his boys to act hostilely toward the other, then become extremely angry at him for doing so. When the two boys are playing with a toy, such a father might say out loud, "next thing you know, he'll be taking the toy from his brother", which the boy will act upon as a suggestion and the father will then overreact punishing in essence his own rivalrous feelings as well as the behavior of one of his sons.

In discussing the personality disorders, the concept of a continuum is useful.[11] At one end are relatively well organized personalities grading into more healthy personalities. The better organized personalities, with, for example, constructively compulsive traits or somewhat overdependent characteristics, represent mild to moderate exaggerations of healthy personality traits. These individuals may blend into the environment or may pass unnoticed until the interpersonal network of relationships suddenly or radically changes. At the other end of the continuum are markedly impulsive, sometimes poorly organized personalities that come into conflict with society over their antisocial patterns of behavior. Most personality disorders appear to involve (1) strong fixations related to early difficulties in handling of dependent wishes, (2) strivings for autonomy, and (3) the handling of aggressive impulses. As these behavior patterns tend to interfere with relationships, character disordered persons tend to have chronically impoverished interpersonal relationships.

The following brief discussion of the various character disorders will be based on the *American Psychiatric Association Diagnostic & Statistical Manual of Mental Disorders*, Second Edition (DSM II). At the least disturbed end of the continuum of personality disorders are the obsessive-compulsive, hysterical and passive-aggressive personality disorders.

The *obsessive-compulsive personality* is characterized by excessive concern with conformity and adherence to standards of conscience. Consequently, these individuals may be rigid, over-inhibited, over-conscientious and unable to relax easily. These persons tend to have impoverished relationships due to the constriction of the personality, and get into difficulty with other persons largely through their need to control others much as they control themselves. There is a tendency to depression in later life due to difficulties in adapting to the waning of physical and mental capacities, and to the approach of the end of life.

Hysterical persons tend to be excitable, emo-

tionally unstable, over-reactive, and self-dramatizing. This disorder is much more common in females. Although the attention-seeking behavior is in fact motivated by excessive dependency needs, it is often interpreted as seductive by males. As an example, a judge in a distant county recently sent a 15 year old girl to the University of Virginia Hospital for evaluation, because of her having accused four different men of rape in a three month period.

The person with a *passive-aggressive personality*, similar to the hysterical personality, has difficulties with excessive dependency needs. This appears to be the major motivation for the aggressiveness displayed to others in passive terms, by obstructionism, pouting, procrastination, or stubbornness. The behavior is an expression of the person's resentment at failing chronically to find gratification in his relationship with an individual or institution upon which he is over-dependent.

The three disorders discussed above, the obsessive-compulsive, the hysterical and the passive-aggressive, were under an older psychiatric classification considered personality trait disturbances.[12] This remains a useful concept. Persons suffering from the personality trait disturbances are described as being unable to maintain their emotional equilibrium and independence under minor or major stress and tend to use regression or reverting to more immature behavior patterns as a defense, much as neurotics do.

Considered much more serious and reflecting more impaired functioning are the inadequate, cyclothymic, schizoid, and paranoid personality disorders, which were felt to be rarely, if ever, altered by any form of therapy, although functioning could be improved by prolonged therapy. The depth of the psychopathology in these conditions allows little room for adaptive maneuvers under conditions of stress, when frank psychosis may intervene.

The *inadequate personality* classification is a somewhat vague one, and in practice is often applied to those in whom one might consider simple schizophrenia, but there is not sufficient impairment to justify a psychotic diagnosis. Persons with an inadequate personality disorder are characterized by ineffectual responses to emotional, social, intellectual and physical demands. While the person seems neither physically nor mentally deficient, he does manifest inadaptability, ineptness, poor judgment, social instability, and lack of physical and emotional stamina.

Persons with *cyclothymic personality* disorder are characterized by recurring and alternating periods of depression and elation. Periods of elation may be marked by ambition, warmth, enthusiasm, optimism and high energy. Periods of depression may be marked by worry, pessimism, low energy and a sense of futility. These mood variations are not readily attributable to external circumstances. Somewhat analogous to inadequate personality and simple schizophrenia, cyclothymic personality is often considered in persons who have much in common with manic depressive psychosis, but who are not psychotic and are not sufficiently impaired to warrant the manic depressive diagnosis.

Persons with a *schizoid personality* pattern manifest shyness, oversensitivity, seclusiveness, avoidance of close or competitive relationships, and often egocentricity. Autistic thinking without loss of capacity to recognize reality is common, as is daydreaming and the inability to express hostility and ordinary aggressive feelings.

Persons with a *paranoid personality* are characterized by hypersensitivity, rigidity, unwarranted suspicion, jealousy, envy, excessive self-importance, and a tendency to blame others and ascribe evil motives to them. These characteristics often interfere severely with the person's ability to maintain satisfactory interpersonal relationships, and these peoples' tendency to frequent the courts for redress of wrongs by neighbors and work associates has resulted in their also being called "litigious personality".

As mentioned earlier, this group, the inadequate, cyclothymic, schizoid, and paranoid personalities, was considered in the older classification as personality pattern disturbances and indicative of quite severe, ingrained psychopathology. All four of these conditions have

much in common with a corresponding psychotic state but do not have the difficulties with reality testing and with the degree of control of their behavior which would warrant a psychotic diagnosis.

In the most recent personality classification, the DSM II, two new ones have been added. These are *explosive* personality and *asthenic* personality.

The *explosive personality* is characterized by outbursts of rage or verbal or physical aggressiveness. These outbursts are strikingly different from the person's usual behavior, and he may be regretful and repentant for them. This seems to take the place of the passive-aggressive personality, aggressive type in the older classification, and can usually be thought of as a rage reaction to deprivation of dependency needs which are exaggerated as in passive-aggressive personality.

The *asthenic personality* is characterized by easy fatiguability, low energy level, lack of enthusiasm, marked incapacity for enjoyment, and over-sensitivity to physical and emotional stress. These last two classifications have appeared in an effort to attain a world-wide classification system through the World Health Organization.

Conditions of vast importance but which will not be discussed are the addictions, *alcoholism* and *drug dependence*, and *sexual deviations*, which are also classified under the personality disorders.

The *antisocial personality* disorder describes individuals who are basically unsocialized and whose behavior pattern brings them repeatedly into conflict with society. They are incapable of significant loyalty to individuals, groups, or social values. They are grossly selfish, callous, irresponsible, impulsive and unable to feel guilt or to learn from experience and punishment. Frustration tolerance is low. They tend to blame others or offer plausible rationalizations for their behavior.

Epidemiology of the Antisocial Personality

The antisocial personality is the disorder with the most important and devastating implications for adult life. There have been two major studies that have been very informative regarding this disorder. The first is that of Sheldon and Eleanor Glueck who studied 500 delinquents from two correctional schools in Massachusetts.[13] They made a scale, modified by others, which although it tends to overpredict delinquency, it is fairly accurate at correctly identifying future delinquents around the age of six.[14] The factors found to be the most accurate and reliable in predicting delinquency are:

1. physical punishment by the father who is over-strict;
2. laxity and inconsistency in the disciplinary practices of the mother, and
3. a marked lack of cohesiveness of the family, with weak affectional ties, lack of pride in their homes, and lack of shared joint interests.

The second study throwing light upon the genesis of antisocial personality is that of Robins and O'Neal, a 30 year follow up of 524 child psychiatric clinic patients in St. Louis.[3,4] They found that the age of onset of antisocial personality is before 15 years of age and, when an adequate history can be obtained, probably before 12. The most frequent symptoms occurring in childhood were theft, incorrigibility, truancy, running away, physical aggression, and sexual acting out. In following up all their child patients they found that not a single child developed an antisocial personality as an adult in the absence of antisocial symptoms in childhood. About half of the antisocial children continued their antisocial behavior as adults. However, of the remaining half of adults who were antisocial as children, over 90% were psychiatrically ill at follow up. They showed a high incidence of other adult psychiatric illnesses, especially alcohol addiction. Of those persons in whom 10 or more antisocial symptoms were present in childhood, only 5% were clinically well as adults. In contrast, when there were fewer than three childhood antisocial symptoms, 34% were clinically well as adults. Thus the occurrence of moderate to severe antisocial behavior in childhood

is a serious prognostic sign with regard to adult psychiatric illness.

The background of these children included parents who exhibited a high degree of antisocial behavior, broken homes, alcoholism and low socio-economic status. However, in the absence of antisocial symptoms in childhood, these environmental situations do not lead to adult antisocial symptoms. And a higher socio-economic status offers no immunity—15% of the antisocial children came from white collar, self-supporting families.

Fifty-one percent of the antisocial adults had fathers suffering from antisocial personality or alcoholism, while only 19% of those with no psychiatric illness as adults had fathers who were either antisocial or alcoholic. The combination of a child who exhibited a variety of antisocial symptoms at least one of which could be grounds for juvenile court appearance and who in addition had a father whose behavior was antisocial was highly predictive of an antisocial diagnosis in adulthood. In fact, the presence of antisocial behavior in both the father and son were the factors most predictive of the child's suffering from an antisocial personality disorder as an adult.

Both from the viewpoint of personality development as reflected in epidemiologic studies and as revealed in individual case studies, it is clear that antisocial personality, as well as the other personality disorders, has its roots in the family in the early years of a child's life.

Summary

The character disordered person exhibits a notable rigidity and predictability of his reaction to stress as opposed to the more healthy person, who although he has characteristic patterns of reaction also has alternative modes when the need arises. In normal development, functioning by means of the pleasure principle is replaced by functioning by means of the reality principle, and failures in this sequence have implications in the development of antisocial personality in particular. Although the other personality disorders do not share the difficulties in the control of impulses and drives that the antisocial personality exhibits, all the personality disorders have in common a primitive, immature mode of personality functioning. The chronic and anxiety-free patterns of immature behavior differentiate personality disordered persons from neurotics. The personality disordered person's maladaptive behavior is experienced as a normal, natural part of him, and he does not usually have feelings of doubt or of having made mistakes. This contrasts sharply with the experiencing of neurotic behavior as irritating, strange, perhaps guilt producing, and always associated with anxiety. Since the behavior pattern of the character disordered person is not experienced as uncomfortable by its possessor, it is labelled as deviant by others who experience it as destructive, irritating, or childish. The primary subjective experience of the personality disordered person does not usually lead him to seek help for himself.

Psychotherapy is sought by adults primarily in times of crisis, and relatively short term work often aids the person to understand that the crisis may have been of his own making, thus helping him to attain a higher level of personality functioning. If a child with an incipient character disorder is engaged in psychotherapy and his parents are able to work collaboratively with the therapist, marked improvement can be expected. The most discouraging disorder to treat psychotherapeutically is the antisocial personality disorder. Severe cases can be treated most successfully in residential centers. Improved social services and better educational and economic opportunities offer the best hope of decreasing the incidence of this most severe of the personality disorders.

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Box 202,
University of Virginia Medical Center
Charlottesville, Virginia 22901

"Chloroform Party"

The newest wrinkle in drug abuse among the young is the "chloroform party," says a report in a July 9th issue of the *Journal of the American Medical Association.*

Young adults in central Wisconsin recently have been participating in chloroform parties, where a bottle of chloroform is passed around and each participant inhales the vapors from a saturated cloth, says William W. Storms, M.D., of the University of Wisconsin Medical Center, Madison. The "high" is short-lived and does not leave any tell-tale signs. Some participants drink small amounts of chloroform in addition to inhaling it. They claim no ill effect.

The report describes the case of a 19-year-old boy who drank a quantity of chloroform on top of three bottles of beer and wound up in the hospital, seriously ill. He recovered, but suffered liver damage.

Drinking chloroform can cause coma, severe liver damage and even death. Physicians and public health authorities should be aware that chloroform sniffing is a new fad, and young people should be informed of its potentially lethal consequences.

Parotid Benign Giant Mixed Tumor of Forty-two Years Duration with Malignant Transformation

JUAN M. MONTERO, II, M.D.
Portsmouth, Virginia
ANGEL E. ARGUETA, M.D.
RODOLFO E. DOLLETE, M.D.
THOMAS J. IRISH, JR., M.D.
JOHN N. KING, M.D.
Norfolk, Virginia

This giant mixed tumor of the parotid had been present for 42 years but, after removal, sections showed malignant change and the patient died of pulmonary metastases three months later.

TRULY GIANT MIXED TUMORS of the parotid gland are seen less often than in previous years. One of the largest resected tumors reported in the available literature weighed 4.1 kg (9 lbs.).[5] This was credited to Paget in 1870. These tumors may be present for many years; the longest duration that has been recorded is 52 years.[1] The following case report illustrates the gigantic dimensions that this tumor may reach and the tendency to develop malignant change, the longer its duration.[2]

Case Report

J. B., a 55-year-old Negro woman, was admitted on March 30, 1972, through the Emergency Room, severely anemic from chronic bleeding of a huge ulcerated right neck mass, measuring 30 x 14 x 12 cm. She first noticed a small painless mass close to the angle of the mandible at age 13. She denies any serious illness in the past.

Pertinent physical examination revealed a thin lady with a huge, non-tender, slightly mobile mass of the right neck extending to the lower face and behind the right ear and to the midline anteriorly. The base was mainly at the parotid area with hard lobulations posteriorly. The ear lobe was markedly distorted from below by this encroaching mass. There were two ulcerated areas on the antero-inferior

Fig. 1. Photograph of the patient preoperatively. Note the ulcerations antero-inferiorly and the posterior lobulations distorting the ear lobe.

From the Department of Surgery, DePaul Hospital, Norfolk.

Address for reprints: Juan M. Montero, II, M.D., 622 Citizens Trust Building, Portsmouth, Virginia 23704.

portion, each approximately 4 cm in diameter with slight continuous bloody ooze which was stopped by electrocautery.

Fig. 2. Photograph of the patient six weeks postoperatively.

On admission, her hemoglobin was 8.8 grams and hematocrit of 28 vol. %. Other laboratory studies which included chemogram, electrolytes, urinalysis were within normal limits. A barium swallow plus x-rays of the neck, mandible, skull and chest were negative. A right parotid sialogram showed the ductal system to be markedly distorted.

On April 3, 1972, she underwent a right parotidectomy with dissection of the facial nerve root and its branches. A small buccal branch which entered the tumor substance was divided. The tumor arose from the superficial lobe and essentially replaced the entire substance of the gland. The specimen weighed 1.95 kg (4 lbs. 5 ozs.). Several slides on frozen section did not reveal any malignancy. However, permanent sections showed malignant cells within the confines of the capsule. The wound was closed primarily, utilizing Hemovac drainage. She received 4 units of whole blood pre and postoperatively. Antibiotics were also given during this period since a culture from the ulcerated area grew Staphylococcus aureus, coagulase positive. She had an uneventful postoperative course. She manifests mild to moderate paresis of facial nerve branches with gradual improvement two months postoperatively. Unfortunately, the following month, she was admitted to the hos-

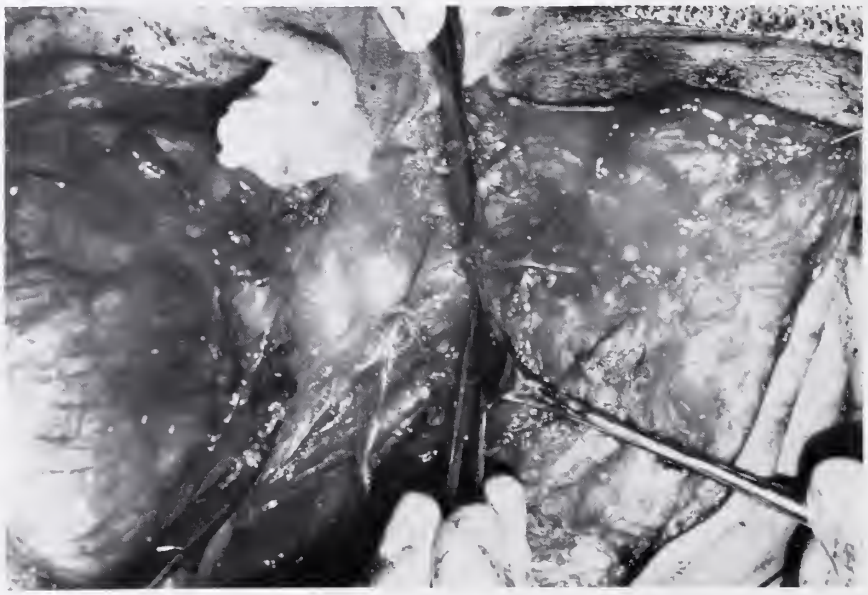

Fig. 3. Photograph of the operative field showing the facial nerve root (between forceps) and its branches. The tumor is on the right.

Fig. 4. Operative photograph of the specimen on the patient's chest. Note the huge defect on the lower left.

pital in extremis and died with massive pulmonary metastases. No autopsy was obtained.

Discussion

Fear of surgery by the patient accounted for the delayed medical attention. The clinical behavior of the tumor which is usually no indication of the final histopathologic type[6] is quite interesting in this case. Many authors[1,4,7] do not favor a preliminary biopsy. We agree with this concept. Biopsy of suspicious areas can always be taken for frozen section microscopy during the course of the operation. Pre-

Fig. 5. Microscopy: beneath the compressed normal parotid gland tissue (above) is the capsule which is focally infiltrated with a sarcomatous area. X 450.

liminary biopsy should be avoided for fear of tumor dissemination. This patient's tumor was generally non-invasive except for a tiny terminal buccal branch which entered the tumor substance. This latter branch was sacrificed. The entire facial nerve with its branches was dissected without difficulty (Fig. 3). There was no identifiable parotid tissue remaining at the termination of the procedure. Beahrs and associates[2] consider the malignant mixed tumor as being a high grade malignancy and should be treated with radical total parotidectomy (facial nerve sacrificed). On the other hand, Nanson[3] in his Hunterian Lecture before the Royal College of Surgeons of England, in 1959, made a strong distinction between malignant mixed tumors and frank carcinomas, the former having a far better prognosis. He recommended preservation of the nerve where possible for malignant mixed tumors. Our patient did not manifest any facial nerve involvement clinically (Fig. 1). The cervical lymph nodes were not involved. It was only on permanent microscopy that neoplastic foci were found and these appeared to be well within the margin of the resected specimen. Close follow-up of these patients is indicated, as mixed tumors of the parotid gland are noted for recurrence.

Summary

A case of a 1.95 kg (4 lbs. 5 ozs.) benign giant mixed tumor of the parotid gland of 42 years duration with malignant transformation is presented. The recent available literature was reviewed. Parotidectomy with preservation of the facial nerve was considered adequate treatment in this case.

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622 Citizens Trust Building
Portsmouth, Virginia 23704

Clinical Center Studies of Patients with Acromegaly and Hirsutism and/or Virilization

The cooperation of physicians is requested in the referral of patients for two studies being conducted by the National Institute of Child Health and Human Development's Reproduction Research Branch at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients with either untreated ACROMEGALY, or treated but still active acromegaly, are being sought for a trial with medical therapy.

Patients with HIRSUTISM and/or VIRILIZATION are being sought for endocrine evaluation and therapy.

Upon completion of studies, patients will be returned to the care of the referring physician who will receive a summary of findings.

Physicians interested in having their patients considered for admission may write or telephone: D. Lynn Loriaux, M.D., Clinical Center, Room 10B-09, National Institutes of Health, Bethesda, Md. 20014, Telephone: 301-496-5800 or 301-496-4686.

A Standard Rape Investigation Form

WILLIAM F. ENOS, M.D.
JAMES C. BEYER, M.D.
Arlington, Virginia

BASED ON FIFTEEN YEARS OF EXPERIENCE in investigation of alleged rape cases in Northern Virginia, a paper was published recently in *Journal of Forensic Sciences* entitled "The Medical Examination of Cases of Rape." [1] Partly as a result of this publication, local law enforcement agencies and Emergency Room personnel evidenced an interest in the development of a standard report form for investigation of cases of suspected rape, in order to facilitate the collection and preservation of evidence and to insure the uniform medical examination and treatment of the rape victims. In response to this interest, the following form was developed. We feel that this form may be of general interest to the medical community.

ENOS, WILLIAM F., M.D., *Pathologist, Northern Virginia Doctors Hospital.*

BEYER, J. C., M.D., *Deputy Chief Medical Examiner, Commonwealth of Virginia, Northern Virginia Division, Falls Church.*

REFERENCE

1. The Medical Examination of Cases of Rape. J. Forensic Sciences 17: No. 1, 1972.

RAPE INVESTIGATION FORM

Introduction

Criticism of police investigators and physicians frequently stems from an atmosphere of suspicion and doubt reflected by the investigators concerning the complaint. The victim feels that she must prove her innocence, rather than relate a single account of the circumstances surrounding the sexual attack.

Therefore, prior to the formation of any judgments by investigators or physicians as to the validity or sincerity of the facts reported, every effort should be made to establish an unbiased mode of questioning. This will not only prevent untoward criticism of law enforcement officials but may stimulate a greater number of rape victims to report the incident to the police.

The following rape investigation form is intended to simplify the interrogation and standardize the information obtained from a rape victim.

Instructions

If information obtained in Section C provides the answers to any of the questions in Section D, it is advisable not to repeat the questions. Furthermore, depending on the circumstances and age of the victim, any question may be omitted if the investigator feels that it is redundant.

If the victim is under twelve years of age, it may be advisable to have a parent present during questioning of the victim.

Psychologic counseling of the victim is advised, especially if the victim is under ten years of age. Other modalities under Section J include therapy for trauma (if present), prophylactic treatment for venereal disease, and counseling concerning the possibility of pregnancy.

Date_____ Time_____ Investigating Officer_____

A. Name and address of alleged victim_____
   Age_____ Sex_____ Race_____
B. Who placed complaint?_____
C. Circumstances of attack (including date, time and location)_____
   _____
D. Questions
   (1) Did you know the man (or men)? If so, name_____
       If not, description_____
       _____
   (2) Are you going to participate in the prosecution if he is apprehended?____
   (3) Have you been been drinking or taking drugs?_____
   (4) Did you voluntarily accompany him (them) to place of attack?_____
   (5) Did he (they) threaten you (or other member of family)?_____
       If so, with what?_____
   (6) Did he (they) use restraints?_____
   (7) Did he (they) steal anything?_____
   (8) What did he (they) say and do, before, during and after the attack?
       _____
E. Observation
   (9) Emotional state_____
   (10) Condition of clothing_____
       Disposition of clothing if soiled_____
F. Medical examination - history
   (1) Did he attempt fellatio, buggery, cunnilingus?_____
   (2) When did you last have intercourse?_____
   (3) Have you ever been raped before?_____
   (4) Have you ever had psychiatric treatment?_____
   (5) Did he state he was sterile due to operation, or use a condom?_____
   (6) Did he achieve an orgasm?_____
   (7) Are you taking birth control pills or have an IUD?_____
   (8) When was your last period?_____
   (9) Are you being treated for any medical problems?_____
G. Physical examination (location)_____
   Emotional state_____
   Evidence of trauma (blunt injury, ligature marks, etc.): type and distribution_____
   _____
   Foreign material (dirt, vegetation, pubic hair): buttocks, vulva, extremities_____
   _____
   Vulva - trauma_____ Hymen - intact_____
   seminal fluid_____ not intact (healed)_____
   traumatized_____
   Vaginal orifice - virginal_____ Vagina_____
   marital_____ Cervix_____
   Perineum_____
   Rectum_____
H. Laboratory examination
   Saline suspension - sperm_____
   Papanicolaou smears: vagina, mouth, anus - sperm_____
   Acid phosphatase determination: vagina_____ GC smear_____
I. Comments:_____
   _____
J. Treatment:_____
K. Diagnosis:_____
L. Disposition:_____

(Signed)_____ (Signed)_____
Examining physician Investigating officer

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Influenza

Each year physicians are faced with the recurring problem of influenza, and 1973 is no different. Influenza occurs to some extent throughout the world each year but its extent and severity in a given area vary considerably. In the 1972 "flu season" there were 13,915 cases reported to the Virginia State Health Department. In the past the epidemic has usually begun in December, peaked in February, and been over by April. Of course, the number of reported cases represents only a fraction of the total.

Periodically influenza occurs in a more severe form with much higher incidence. This is because of the unique character of the influenza virus which is constantly undergoing antigenic changes. When these antigenic changes are sufficiently great, the population becomes susceptible. Fortunately these changes are usually gradual but when they are abrupt, particularly severe epidemics ensue.

There are two major types of influenza viruses recognized and both can undergo antigenic changes. The two types are designated as type A and type B and both are somewhat different epidemiologically and clinically. Type A strains have caused most of the world's flu epidemics. They affect children and the elderly and cause significant mortality from pneumonic complications. Type B strains are far less prone to rapid spread even in a population with a high proportion of seronegatives. Infections with the B virus occur most often in young adults and the symptoms are usually milder. Outbreaks of type B flu have not been associated with marked rises in excess pneumonia-influenza deaths.

Our main defense against the mortality caused by influenza is the vaccine. As we are all aware this defense has had many weaknesses. Influenza vaccines have not been uniformly effective in the past and the protection they offered recipients was shortlived. Vaccines being produced today are far improved over the pre-1972 vaccines. They are more potent because they contain more antigen in a more purified form. As a result, when the prevalent virus is identical or similar to the ones contained in the vaccine, good protection should be afforded to recipients. Pre-1972 vaccines were also recommended to be given as a primary series of two doses. With the improvement in vaccine potency, however, the second dose cannot be shown to bestow much additional protection and is therefore unnecessary. Reactions to the vaccine are also far less common and less severe than with the older vaccines.

Unlike other common vaccines, flu vaccine must be changed each year or two to keep up with the prevalent viruses. Every year the Bureau of Biologics of the Food and Drug Administration reviews influenza vaccine formulation and recommends reformulation as indicated by a change in the currently prevalent viruses. The vaccine producers must then estimate the market for the coming year and begin production. This planning and production process takes nearly a year and estimates for the amount to be produced are based primarily on recorded utilization from previous years.

Most of the influenza activity in late 1972 was A/England/72 with some residual B/Mass/71 activity being reported. As a result the formulation for the 1972-73 vaccine was set up as 70 percent A/England/72 and 30

percent B/Mass/71. Based on previous years' usage, production was set for approximately 20 million doses.

In late 1972 and early 1973 new strains of type B influenza virus were identified. These viruses first caused disease in Hong Kong in December 1972 and hence were designated B/HongKong/72. This virus then spread to Japan in late spring. During the summer scattered cases were reported in Australia. Meanwhile an intermediate strain with some similarities to both the B/Mass/71 and the B/HongKong/72 was isolated in Hannover, West Germany, and in Great Britain. Serological studies have shown that less than one percent of Americans have antibodies to the newer B strains.

In late spring a separate production run of a monovalent B/HK/72 vaccine was begun but the late start in addition to some production difficulties has limited supplies to a fraction of the amount of bivalent vaccine available.

The recommendations of the Public Health Service Advisory Committee on Immunization Practices were and continue to be that only those at high risk of having a complication from influenza (the elderly, and or those with metabolic, pulmonary, or cardiac diseases) should receive the vaccine. Healthy young individuals are not at significant risk of an influenza related complication. With vaccines in their usual relatively short supply, each dose given to individuals not at risk *may* mean that vaccine will not be available for those who really need it. This has occurred this year with the monovalent vaccine which is almost unavailable as the flu season approaches.

Although there is some evidence that the bivalent and monovalent vaccines can be given together safely and result in effective levels of protection, this use has not been approved and the Public Health Service recommendation is that a single dose of bivalent vaccine be followed in two weeks by a single dose of monovalent vaccine (if available). This is only, however, for individuals who fall into the aforementioned categories for whom immunization is recommended.

Another question which comes up regarding administration of the vaccine is whether the administration of small intradermal doses might not be useful in stretching available vaccine and cutting down on the likelihood of untoward reactions. Some serologic studies have been published which indicate satisfactory antibody response to such small intradermal doses but there is little evidence of the protective efficacy of this method in outbreaks. For this reason this route of vaccine administration cannot be recommended.

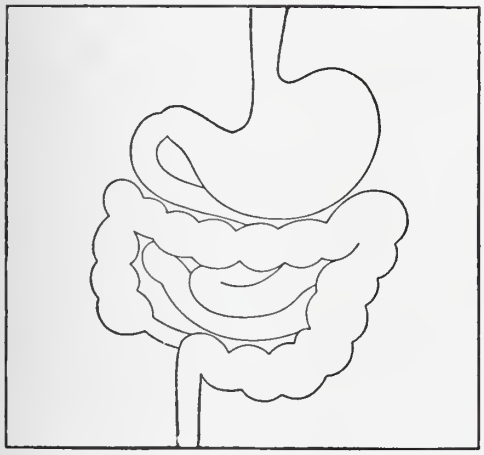
This year Virginia will again participate in an influenza surveillance system in order to be able to:

1. trace the approach, arrival, and geographic spread of influenza activity more accurately;
2. determine as early as possible what type or strain of the virus is prevalent in order to advise physicians on the likelihood of a major epidemic; and
3. to give the Bureau of Biologics, FDA, an early opportunity to recommend reformulation of the vaccine should this be necessary.

Selected local health departments throughout the Commonwealth have begun monitoring sentinel physicians' offices and emergency rooms, and this information will be reviewed weekly by the Bureau of Epidemiology of the Virginia State Health Department and transmitted to the Center for Disease Control. It should be stressed that this system is in addition to our routine morbidity reporting system.

Physicians are encouraged to report suspected local epidemics of influenza. Whenever an influenza epidemic is suspected, virological and serological confirmation should be obtained. "Influenza Kits" are available which contain the necessary materials and instructions for viral culturing and transport and will be shipped immediately on receipt of a phone request to the Bureau of Epidemiology (804-770-6261). These kits will also provide identification of other viral agents causing flu-like illness. Results can be expected in 7-10 days

in "Gasspastic" conditions



The GI tract in spasm is commonly a "gas trap."

Sidonna® is formulated to release entrapped gas, as well as to provide antispasmodic/sedative effects.

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Sidonna has the ability to relieve GI spasm, pain **and gas** in the irritable bowel syndrome, spastic colon, pylorospasm, gastroenteritis, gastritis, nausea, nervous indigestion, or gastric and duodenal ulcer.

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Each scored tablet contains: Specially activated simethicone 25 mg.; hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg. (equivalent to belladonna alkaloids [as bases] 0.1049 mg.) and butabarbital sodium N.F. 16 mg. (Warning: May be habit forming.)

can do more

Contraindications: Anticholinergics should not be used in patients with glaucoma, known prostatic hypertrophy, or pyloric obstruction. Urinary retention may indicate the presence of prostatic hypertrophy. If it occurs, the dose should be reduced or the drug withdrawn. Also contraindicated in patients with known hypersensitivity to one of the components.
Side Effects: Dryness of the mouth, blurred vision, dysuria, skin rash, constipation or drowsiness may occur.

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The irritations of man's day are often reflected in his gut.

The causes of irritable colon and the diarrheal symptoms that often accompany it can be as diverse as the systemic and emotional irritations man is faced with daily.

Although the mucoid nature of stools and the occurrence of diarrheal episodes coincident with times of emotional stress may be valuable clues to the functional nature of the disorder, irritable colon must often be diagnosed by exclusion. Such diagnostic exploration takes time. Discovery of the nature of any emotional problems may take more. During that time, Lomotil® is an ideal agent for controlling diarrheal symptoms.

Lomotil tablets are small, easy to carry and easy to take. They act promptly and effectively. Secondary effects are relatively infrequent and, once the first force of the diarrhea is controlled, maintenance is frequently effective on as little as one fourth of the initial dosage.

These same characteristics make Lomotil useful in controlling the diarrhea associated with gastroenteritis, antibiotic therapy and acute infections.

Lomotil®

TABLETS/LIQUID

Each tablet and each 5 ml. of liquid contain:
diphenoxylate hydrochloride . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.

takes care of the gut issue in irritable colon

IMPORTANT INFORMATION: *This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.*

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: ***Lomotil is contraindicated in children less than 2 years old.*** Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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NOVEMBER 5-8

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Contraindications: Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg

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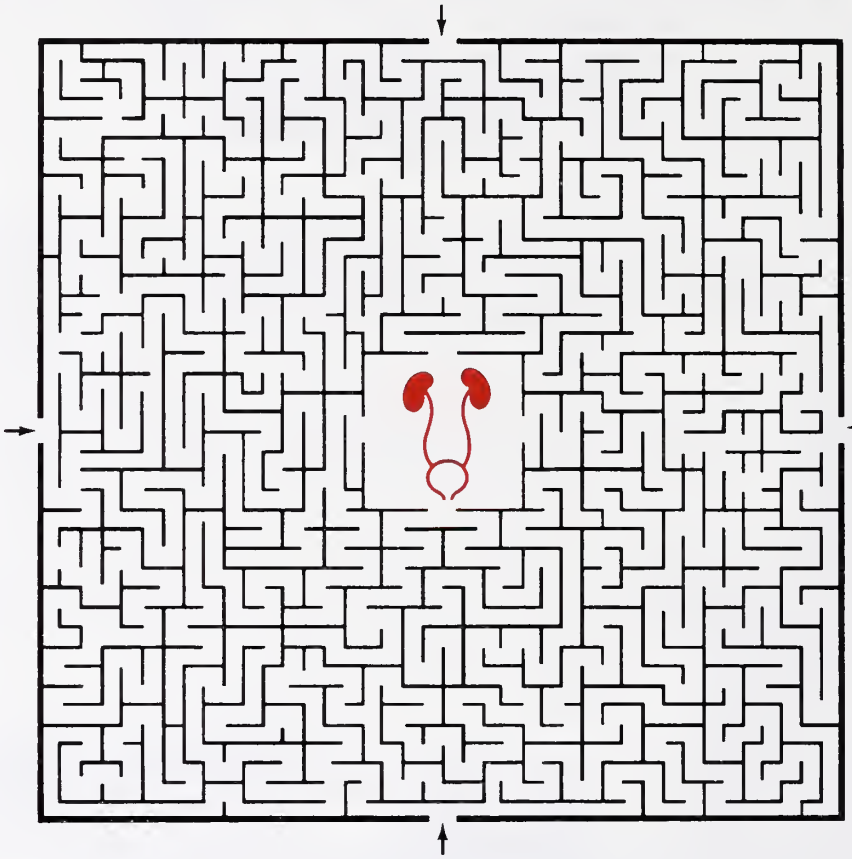
Basics in the treatment of urinary tract infection

Short-term therapy is no shortcut



Enter any opening and find way to center of maze. Only one entrance will get you there.

The case for adequate length of therapy

In the insidious, common and often stubborn urinary tract infections, duration of therapy is not standardized. Because renal damage in many patients is believed to result from repeated urinary tract infections in childhood, one pediatrician has stated that a rational approach to treatment includes more than a perfunctory prescription of an antibacterial agent.[1]

The first 48 hours and after...

To ensure adequate therapy, one expert[2] proceeds as follows: an initial culture and one after 48 hours. If the antibacterial used has been effective, the urine will be clear of pathogens after 24 to 48 hours. However, urine should be recultured and any persistence of original pathogens indicates that another drug be used. On the other hand, if urine is found to be sterile, the same drug is continued for two weeks. Then urine is recultured starting a week after the last drug dose, and cultures are continued monthly for three months, then every three months for a year, and finally, every four months for several years.[2]

Another authority[3] notes that initial short-term therapy without careful follow-up can lead to trouble, as reflected by the high relapse rate. He treats an initial urinary tract infection with a sulfa drug after taking a urine culture. If *Escherichia coli* is found—and it is in 70 to 80 per cent of cases—he continues full dosage for 21 days. Five to 10 days after cessation of therapy, he recultures and takes a colony count. If urine is sterile, he recultures at three and six months.

Measurement of success

For success in the treatment of urinary tract infection, the urine must be kept free of bacteria for prolonged periods until the focus of infection in the tissue has been eradicated.[3] This may take months or years when the infection is chronic or persistent. Criteria for successful therapy with a drug are regarded as absence of symptoms and absence of pyuria and bacteriuria.[3] One authority defines significant bacteriuria as a count of at least 100,000/ml of the same organism in two consecutive clean-voided urine samples.[4]

The nature of the infection and the length of therapy

Long-term follow-up is essential, a clinician who treats recurrent infections for one to two years points out.[3] Persistent, symptomless bacteriuria usually calls for urologic procedures to find the site of infection, because any underlying abnormality predisposing to urinary tract infection must be detected and corrected—otherwise therapy is futile.[5] Upper urinary tract infection generally requires longer therapy than infection of the lower urinary tract.

In acute, simple, first infections of a symptomatic type, the pathogens are nearly always *E. coli* or *Proteus mirabilis*.[5]

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The case for Gantanol® (sulfamethoxazole)

Fights susceptible organisms most often implicated

Gantanol® (sulfamethoxazole) is effective against not only susceptible strains of *E. coli* and *Proteus mirabilis* but also of *Klebsiella-Aerobacter, Staphylococcus aureus* and, less frequently, *Proteus vulgaris*—pathogens apt to be found in the mixed bacterial flora of recurrent and chronic cystitis and/or pyelonephritis.

Prompt antibacterial blood/urine levels

After the initial 2-Gm adult dose, therapeutic blood/urine levels are usually reached in from 2 to 3 hours, then maintained with either of the two dosage forms of Gantanol—tablets or suspension. And, Gantanol *b.i.d.* dosage means up to 12 hours of antibacterial activity, obviating the patient's having to disturb his sleep to take medication. More severe infections may require *t.i.d.* dosage.

Also effective in certain nonobstructed chronic and recurrent urinary tract infections

Nonobstructed chronic and recurrent cystitis or pyelonephritis develops more commonly in the elderly and debilitated, and response to Gantanol (sulfamethoxazole) is often highly satisfactory. The usual precautions in sulfonamide therapy should be observed, including maintenance of adequate fluid intake, frequent c.b.c.'s and urinalyses with microscopic examination.

Make the therapy suit the infection

In most urinary tract infections the *b.i.d.* schedule will usually suffice, but therapy must be maintained long enough to ensure eradication of pathogens. Mounting evidence in current medical literature suggests a minimum of 14 days of continuous therapy.* Adequate treatment for a sufficient time may also help prevent possible kidney damage. Gantanol is generally well tolerated with relative freedom from complications. The most common side effects include nausea, vomiting and diarrhea. Prescribe Gantanol tablets or the pleasant-tasting suspension.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

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Nutley, N.J. 07110

Please see following page for summary of product information.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. ***Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

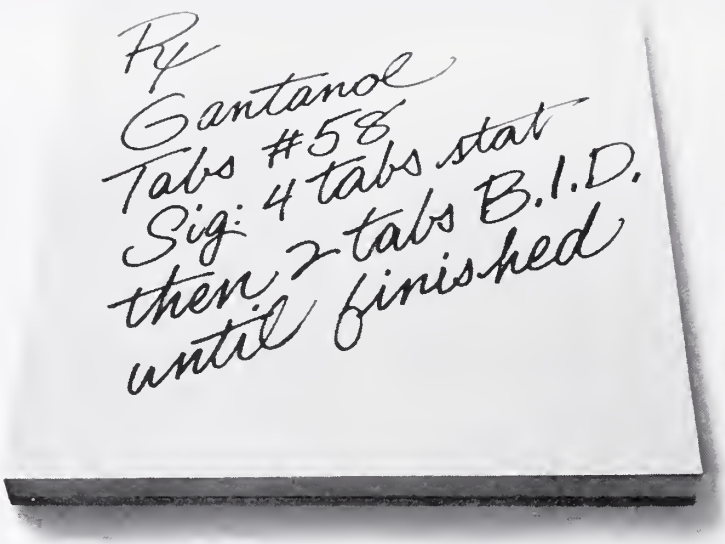
Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley N J 07110



In nonobstructed cystitis due to susceptible organisms

Gantanol® (sulfamethoxazole) B.I.D.

Basic Therapy

after the arrival of the specimen in the laboratory, and the Bureau of Epidemiology will provide followup contacts with physicians and local health directors.

A second potential defense against influenza A which may prove useful after more complete evaluation is Amantadine. This is an antiviral agent which is reported (Medical Letter, 12: p 106, 1970) to prevent clinical illness from influenza A by keeping the virus from penetrating the cell. The drug does not work with influenza B. Amantadine only works if begun before exposure to influenza A and continued during the period of potential exposure. Recommended dosage for adults is 200 mgm (2-100 mgm capsules) once daily. The necessity of beginning Amantadine prior to exposure and its lack of usefulness in type B infections make it even more crucial that early reporting and virological confirmation be obtained.

LET'S REMINISCE!

Medical Society of Virginia.

As the day approaches for the Session of the Society next week at Virginia Beach, more and more encouraging reports as to the prospects of a big and prosperous meeting are coming in. The manager of "The Princess Anne," so rumor comes, will have a specially late supper on Thursday night, and the guests may sit up, and talk and toast and eat, etc., till as late an hour as they please. It is evident also that the authorities of Washington had some inkling of the meeting at "the Beach" and, as if in special compliment, ordered up the Atlantic fleets—including the battle-scarred battleships, cruisers, etc.—to be in Hampton Roads during the Session of the Society—in view of the Beach. (It appears that on complaint of some one, since writing this, only a part of the fleet will be in "the Roads.") If any one attends this Session of the Medical Society of Virginia and does not return home pleased with the provisions made for his comfort, enjoyment, and profit, he must, indeed, be a thoroughly unappreciative person.

(Virginia Medical Semi-Monthly, Vol. 3, August 26, 1898)

Medicare—Part B....

CURTIS J. KELLY, JD

Peer Review & Medicare

Part B of Medicare frequently requests The Medical Society of Virginia to conduct Peer Review on specific claims. When such review is requested, we seek information as to the efficacy of medical care based on the Medicare claim file documentation. Our concern is to consider for payment only those items or services that are *reasonable* and *necessary* for the *diagnosis* or *treatment* of bodily injury or disease or to improve the functioning of a malformed body member. We seek Peer opinion, usually in contested claims, as to which of the items or services are medically reasonable and necessary.

Prior to requesting Peer Review, the claims are subject to various Medicare in-house screens and have also been reviewed by one or more actively practicing physicians who act as consultants to Part B of Medicare.

Generally, the files reflect unusual patterns of care and in the opinion of Part B of Medicare, the items or services provided are not adequately documented in the file to support that each and every service was medically reasonable and necessary. Usually the files pose questions as to:

1. Unusual frequency and duration of the use of parenteral medication. In such cases, we seek information as to which of the injections were reasonable and necessary.
2. Unusually frequent laboratory tests—and again we seek Peer opinion as to which of the tests were reasonable and necessary.
3. Similar questions involving home, office or hospital visits are also frequently involved.
4. From time to time, we solicit the opinion of The Medical Society of Virginia as to a matter that appears to involve a question of medical ethics as demonstrated by a particular physician's billing practice. In recent months these have involved:

   A. A physician who refused to provide patients with an itemized bill until the bill was paid in full.

   B. A physician who utilized the services of an outside laboratory for the performance of Panel Tests (Example—SMA 12), yet billed the patient for each individual test as though they had been individually performed, at a total price that exceeded the cost of the Panel to the physician by $45 to $50.

Part B of Medicare's interest in Peer Review is limited to the identification of those items or services which the Peer Committee identifies as not reasonable and necessary. Items and services so identified are then not considered for payment.

We would hope that if, in the opinion of the Peer Review Committee, the pattern of care and practice was sufficiently unusual or bazaar, the Committee or The Medical Society of Virginia would take whatever action was deemed appropriate with the physician involved; however, with one possible exception, this does not fall within the purview of Part B of Medicare. The exception involves matters of program integrity where fraud may be involved. Such matters must be promptly reported for investigation and handling by the appropriate agency of the Federal Government.

Local academies to whom The Medical Society of Virginia has referred Medicare claims for Peer Review have been extremely slow in responding. Inordinate delays have been ex-

perienced. These delays have a decided effect on the prompt and proper handling of claims. Delays in claim handling require explanation to the federal agencies involved and undoubtedly could have a cumulative effect on future federal regulations. As of November 9, 1973, our records indicate that we have not had a reply to:

1. 23 Claims forwarded on 6/21/73 (involving one physician)
2. 2 Claims forwarded on 6/25/73
3. 11 Claims forwarded on 8/28/73 (involving one physician)
4. 1 Claim forwarded on 9/06/73

INFANT MORTALITY HITS RECORD LOW

The U.S. infant mortality rate in 1972 was the lowest ever recorded in this country, 18.2 per 1,000 live births, says an article in a November issue of *American Medical News*, a publication of the American Medical Association.

While the new low figure is encouraging, the article reminds once again that infant mortality is not the best, nor even a very good indicator of the efficacy of a nation's health delivery system. The rate has been dropping steadily for years, and is continuing to drop. In July, 1973, the latest month for which figures are available, it stood at 16.7.

"For the most part, infant mortality rates reflect social, not medical, problems. Poverty, malnutrition, poor housing, low education levels, and racial or ethnic differences can be correlated with infant death rates."

"Nevertheless, there it is: An infant mortality rate chart line that resembles a downhill run on a ski slope. Something good is happening."

As recently as 1950, the U.S. infant mortality rate was a discouraging 29.2 per 1,000 live births. In most years since then, it has gone steadily downward. The article is based on statistics from the National Center for Health Statistics, a division of the U.S. Public Health Service.

The "estimated expectation of life at birth" in 1972 was at an all-time high, 71.2 years for the total population. U.S. life expectancy has been above 70 years since 1964.

Infant deaths have constituted about 2 per cent of all deaths in this country in recent years. Last year the overall death rate from all causes was 9.42 per 1,000 population. Heart disease, the leading killer, accounted for more than 38 per cent of all deaths. Cancer was next, causing almost 18 per cent of all deaths, followed by strokes at 11 per cent and accidents at 6 per cent.

One factor that may be contributing to lowering infant death rates, says the article, is the corresponding drop in births. In 1972 there were slightly more than 3¼ million births, about 9 per cent lower than the previous year.

The article cites a study showing that proper prenatal care has a major role in increasing an infant's chances for life. Mortality rates ranged from 11.9 per 1,000 among a "no risk" group, to a high of 41.7 per 1,000 among those with both sociodemographic and medical-obstetric risks. Most of the medical-obstetric risks were, or could have been, identifiable at the first pre-natal visit.

Woman's Auxiliary . . . .

Mrs. W. Nash Thompson

Was installed as President of the Woman's Auxiliary to the Southern Medical Association on November 13th. The following is her acceptance speech at this occasion:

First I want to thank Mrs. Kalford W. Howard (Margaret) for installing me and my officers for the coming year. For her gift to me, her bracelet with the 17 States charms linked together. Margaret is Virginia's only past president of the Southern Medical Auxiliary and has been a bright and shining star to encourage me to enjoy the work in Southern. This bracelet she has worn for many years, which makes it even dearer. To each of you for selecting me to represent you as President of the Woman's Auxiliary to the Southern Medical Association, I feel very humble and grateful for your trust. I especially want to thank Dr. John Martin, President of The Medical Society of Virginia, for his surprise visit to see me installed and the lovely bouquet of red carnations he presented from the doctors in Virginia. To the members of the Woman's Auxiliary to The Medical Society of Virginia for the beautiful Cardinal Damascene Plate (the cardinal our State bird). For all the other remembrances and help given me.

Our Southern Medical Auxiliary was organized to promote friendliness and good will among the doctors, wives and families of doctors, to assist in entertainment for visiting doctors and their wives at our annual meeting of the Southern Medical Association, and to memorialize physicians both living and dead through appropriate observance of Doctors' Day, March 30, as their special day. I urge each of you to do something special for *your* doctor on Doctors' Day. Make this *His* day. We are to preserve the history and romantic stories of the heroes and heroine of medicine. To assist the Southern Medical Association in promotion of any activity approved by that body. This I promise to do, with your help, to the best of my ability.

This is our Golden Anniversary. I solicit your cooperation and assistance that we may work together to make this year shine like gold with our good deeds, to help our doctors promote "Better Health-Better World".

Again I want to thank each of you for your confidence in me by electing me your president for 1973-1974.

Opal I. Thompson

Doctors' Day.

The Doctors' Day news from the Southern meeting in San Antonio was fantastic! Our State won and won. The Dr. and Mrs. Milford O. Rouse Trophy went to Virginia for the most outstanding exhibit, either state or county, in Research and Romance of Medicine. The exhibit was a hand-hewn splint and the award carried a $15 prize. The Roanoke auxiliary received an award for their unique observance of Doctors' Day. The musical production that they staged was exhibited in San Antonio on film and tape recordings and earned them the Guy Smith Kirby Trophy.

From discussion in San Antonio came some ideas, that in lieu of carnations to the doctors, some auxiliaries contributed to a retarded children's clinic. One group presented a film on medical careers to the schools and another annually gives a biography of a noted M.D. to the library. The Handbook for Doctors' Day has some suggestions which might be helpful in planning for the occasion.

Offer scholarships to medical students or nurses in observance of Doctors' Day.

Furnish a room in a hospital if there is a need for such in your community, or fill some other community need.

Dedicate March 30 to a beloved and honored doctor in your community. Incorporate the "History of Doctors' Day" in your program that day.

Place flowers (red carnations) in churches the day the sermon is to be dedicated to the medical profession. Also place carnations on

graves of deceased doctors in your city or town.

Arrangements of red carnations in hospitals in a prominent place with your auxiliary name on them is good public relations. And don't forget coffee and sandwiches served to the busy doctor is a grand pick-up between cases.

Social affairs, barbecues, picnics, dinner-dances, any type of get-together with original and clever ideas of entertainment, create an excellent feeling of good fellowship and fun among the doctors.

The real idea is service and publicity for the profession and the observances, as they touch the public, should be realistic and practical.

Plan to Attend A Day in Virginia's Legislature

Wednesday, February 13, 1974, physicians' wives throughout Virginia shall visit the 1974 General Assembly. All physicians' wives are cordially invited to participate.

Mr. William Miller, counsel to The Medical Society of Virginia, and Mr. Willard Osburn, lobbyist for The Medical Society of Virginia, will join us on our scheduled day. Mr. Miller will speak to us on bills before the Assembly related to health and medical care. It is expected that more than *300* bills will be introduced which could affect all physicians at this full session.

Time will also be allotted if wives of physicians would like to meet their elected assemblymen but this must be set up by them and at their representatives convenience. If you need assistance, please let us know.

Car pooling shall be very important due to our energy crisis, not only in coming to Richmond but also the parking crisis must be considered within the Capitol area. Therefore, everyone is to meet between 9:30 and 10:00 a.m., February 13, at The Medical Society of Virginia Headquarters on Dover Road. In order that we may know who to expect and not leave anyone stranded, please contact us as to the number expected from your component auxiliaries including individual names by Sunday, February 10.

Following our tour, a "Dutch Treat" luncheon will be served at the Bull and Bear Club between 1:00 and 2:00 p.m. Won't you join us?

State Legislative Chairman
Mrs. M. Pinson Neal, Jr.
2822 East Weyburn Road
Richmond, Virginia 23235
804/272-0754
State Legislative Vice Chairman
Mrs. Robert Guinnell
7908 Ariel Way
McLean, Virginia 22101
703/356-1538

1973-1974 Legislative Action

When involved with legislation as we all should honestly and sincerely be, there is never a dull moment. Our county legislative chairmen have certainly had their share of "the action". An all out alert was sent from the American Medical Association via our National Legislative Chairman to write our House of Representatives in Washington and encourage them to hold firmly to their version of the Health Maintenance Organization Bill (HR 7974). A joint committee of Senate and House of Representatives had been formed to come to agreement regarding the Kennedy Senate version Bill (S-14) and the House Bill 7974. Apparently, an all-out telegram and letter writing campaign was felt necessary at this time to firmly support HR 7974 regardless of the joint committees stand. A watchful eye on the Washington scene will determine our success.

In our own State, auxiliaries were encouraged to write their newly elected or re-elected assemblymen regarding The Medical Society of Virginia introduction via several patrons of the Defective Delinquent Bill to be put "in the hopper" in January. Each Legislative Chairman has material regarding this bill and if you are interested in receiving the bill in its entirety, please contact the State Chairman.

If everyone is accomplishing their legislative job, many responses to your letters and telegrams should be received by you and your members. Please remember to forward these to

us. This will be the only way we can determine our effectiveness.

HAVE YOU SET UP YOUR COUNTY LEGSLINE ALERT SYSTEM? DO IT TODAY!!!

Stepping Stones to Increased Membership

Under the leadership and dynamic enthusiasm of Kay Reardon and Virginia Fletcher our Virginia Auxiliary increased its membership to a record number of 1,714 last year. This, also, reflects hard work and much enthusiasm on the part of Membership Chairmen, County Presidents and Presidents-Elect. Through these energetic officers we can continue to move forward toward an increased membership.

There are 2,148 physicians in Virginia who are members of the American Medical Association and The Medical Society of Virginia. Our auxiliary boasts of 1,714 members which means there is a difference in membership of 434. We need to close this gap in membership and I believe we can do it this year with your interest and participation.

There are several stepping stones which we can use to achieve this goal.

RECRUIT: reach out to that new physician's wife who has just moved to your city or county. To be the first to welcome her to a new location will be the first step in adding *one* more member. It is the first warm welcome to newcomers which make the more lasting impression. Friendships are built on small gestures such as this and your auxiliary may gain another member.

RETAIN: hold members by keeping them interested in your goals and programs. Learn of their talents and get them to apply these talents in promoting programs and committee work. Involvement is very important to most members; where there is activity you will find them ready to assist. Many members are "lost" because they feel they have nothing to contribute. This should not be allowed to happen. Find out what they really would like to contribute to the auxiliary and, when this is determined, give them the opportunity to participate. This is particularly important with the newcomer.

RECLAIM: or recover—Many members become inactive or resign from organizations due to pressures at home. These pressures could arise from any number of sources—young children at home, a long term illness in the family, or even the death of a loved one. The latter most often is the physician-husband. Many widows welcome the invitation to rejoin a group in which they have many common interests and many friends. Young mothers, also, find that they enjoy becoming active again.

Our auxiliary has so many challenges and avenues to channel one's energies, that other women's organizations marvel at our accomplishments. But let us not focus our entire attention on work; a little fun should always be included in our activities. Finding time to have social meetings is always welcome, and we should plan to include our physician-husbands in these. They too need to relax, and they are vitally interested in the accomplishments of their wives.

During the next year I would like to see each member of the auxiliary feel personally responsible for recruiting new members. Each one of you is capable of becoming a "top salesman" by increasing our membership.

Do find ways to include hospital interns' and residents' wives in your auxiliary. If your bylaws do not have a membership category for them, find a way to include them as members. They could be classed as junior members or guest members. The Medical Society of Virginia has included a category for interns and residents, and we should seriously consider adopting similar bylaws to include the wives. In getting them interested in membership now we increase the chances of subsequent membership as practicing physicians' wives.

In summary, let us recruit new members, keep our present members and invite those who have resigned to rejoin. While taking these steps to increase membership, let us add a dash of fun and pleasure. I believe this will be a perfect answer in achieving goal.

IRENE HOGE (MRS. RANDOLPH H.)

Editorial....

Books in the Bathroom

CHICK SALE'S famous "Specialist", Lem Putt, reckoned that a privy was a fine place in which to do "a little readin', figgerin', or thinkin' "; and so it is. A modern tribute to Lem's philosophy bears the title *Jokes for the John* and makes a welcome addition to the little libraries that adorn many of our "smallest rooms".

It has been known for years that the main cause of constipation is delay—neglecting the calls of nature as Sir William Osler put it. There was perhaps some excuse for this in the days of the outdoor privy and the unheated bathroom, when constipation must surely have been a seasonal malady. But has the prevalence of costiveness decreased with the advent of the warm indoor toilet seat? Not at all, judging by current television commercials.

One bygone physician suggested that defecation could be helped by the relaxed atmosphere engendered by reading. In this, he was echoing the words of Lord Chesterfield, who advised reading at stool in one of his celebrated letters to his son. The Earl cited the example of a man who read the Latin poets and then tore out the pages for a more practical use. He hastened to add that the books were the cheapest editions! All this happened, of course, before mail order catalogs—and corn was never a popular plant in England. It is hard to see what harm can be done by reading on the toilet, except to the patient with piles who may encourage their prolapse by tarrying too long over some purple passage.

In Britain, many houses have separate toilets which allow for more latitude in bibliophilic fittings. In this country, that advantage is offset by being able to use books in the bath as well as at stool. In some instances, indeed, it may be necessary to pass long hours immersed in water for therapeutic purposes. A pen and inkstand occupy a prominent place in David's picture of the assassination of the French revolutionary leader, Jean Paul Marat. It is certain that Marat had a skin disease and obtained relief from his itching by lying for hours in a specially constructed 'shoe bath', where he did much of his reading and writing. It was while soaking in warm medicated water that he was stabbed by Charlotte Corday, a fanatical Girondist from Normandy. Marat, incidentally, was a doctor and obtained a degree in physic from the University of Saint Andrews in Scotland.

Although readers in the bath undoubtedly outnumber writers, there must be many poets who have failed to record their "Eurekas" because they did not have pen and paper handy while in the tub. Shower baths are, of course,

useless and the true soaker regards them as being inferior appendages suitable only for singing practice.

It was the custom some years ago to ask eminent persons which book they would take with them if they were to be marooned on a desert island. Would the same volume serve for the bathroom? Probably not. On a lonely isle, a book of length and depth which required contemplation and repeated reading would be needed; not so for the john where an anthology of prose or verse would suggest itself. An exception to this rule could be made for the man who wished to slog through a weighty time, paragraph by paragraph, day by day. In this instance, he would be well advised to "read with a pencil" as the annotations would refresh his memory over the years.

All in all, then, the old doctor's advice may not be as stupid as it first seems. We recommend bedside books for insomnia so why not johnside books for an equally common complaint?

Gray's *Anatomy*, anyone?

FRED J. SPENCER, M.D.

All Work and No Play . . .

THE AUGUST ISSUE of the Virginia Medical Monthly contained an article dealing with a hobby enjoyed by a member of the Society. The writer was none other than our popular and indefatigable Executive Vice-President, Robert I. Howard, and his favorite diversion deals with firearms. It may appear a little incongruous that anyone as mild as Bob should have a fondness for deadly weapons. Your Editor, however, hastens to defend this seeming quirk, for he too has had a life-long weakness for military relics—yet he has never intentionally killed a man or beast, and this fact has not been due entirely to his poor marksmanship.

The particular weapon Bob described so graphically was the LeMat revolver. It was invented and manufactured by Dr. Jean Alexander Francois LeMat of New Orleans. This handgun was probably the closest approach to a cannon that could be carried in a holster. Why, it may be asked, did the good doctor devise so lethal an instrument for the purpose of destroying a human being—even a Union soldier? Perhaps when a physician tires of endeavoring to save lives he may sometimes permit the pendulum to swing to the other end of the arc and use his medical knowledge to provide the most effective manner by which his fellow man may be done away with. Dr. J. I. Guillotin and his favorite mode of decapitation is a good case in question. This Dr. Jekyll and Mr. Hyde reaction on the part of otherwise benign

physicians would be a suitable topic for a full length dissertation by one of our psychiatrists.

But to return to Mr. Howard's article about the LeMat. Several years ago the journal urged members of The Medical Society of Virginia to write about their hobbies. We knew that many readers of the Virginia Medical Monthly were addicted to collecting various items unrelated to medicine. We have numerous bibliophiles, several members are accomplished painters and one has a fondness for self-propelled steam threshing machines. If the boats owned by Virginia physicians could be assembled, the fleet would match the Spanish Armada. This is all to the good but many of the aficionados appear reluctant to tell their companions about them.

William Osler believed every practitioner should have some avocation. The Woman's Auxiliary to the Richmond Academy of Medicine have found hobby shows to be of interest to medical visitors and the public generally. The annual meeting of the AMA features a large and popular display depicting the non-medical activities of American physicians. Our State medical meetings might have an exhibit dealing with our members' hobbies. Meanwhile, now that the ice has been broken by Bob Howard, the physicians of Virginia should tell the rest of us about their favorite pastimes through the pages of the Virginia Medical Monthly.

H.J.W.

News....

Calendar of Events

Lombardi Cancer Symposium—An Interdisciplinary Symposium sponsored by Georgetown University School of Medicine—Basic Science Building—Georgetown University School of Medicine—Washington, D.C.—January 18, 1974.

"Immunizations with Particular Emphasis on the New Programs"—Continuing Education Program sponsored by the University of Virginia School of Medicine—Waynesboro Community Hospital—Waynesboro—January 22, 1974.

"Rocky Mountain Spotted Fever and the Nervous System"—Continuing Education Program sponsored by the University of Virginia School of Medicine—Langley Air Force Base—Hampton—January 24, 1974.

AMA National Leadership Conference—Marriott Motor Hotel—Chicago—January 25-27, 1974.

Congress on Medical Education—Sponsored by American Medical Association—Palmer House—Chicago—February 1-3, 1974.

"Family Practice Program in the United States and England"—Continuing Education Program sponsored by the University of Virginia School of Medicine—King's Daughters' Hospital—Staunton—February 5, 1974.

"What's New in Burns"—Continuing Education Program sponsored by the University of Virginia School of Medicine—Waynesboro Community Hospital—Waynesboro—February 26, 1974.

"Diabetes—New Concepts and Developments"—Continuing Education Program sponsored by University of Virginia School of Medicine—Southwest Virginia Conference Circuit—February 27-28, 1974.

"Neo-Natal and Small Baby Problems"—Continuing Education Program sponsored by the University of Virginia School of Medicine—Langley Air Force Conference Circuit—February 27-28, 1974.

"New Developments in the Emergency Care of the Cardiac Patient; Mobile Coronary Care Units and Heart Attack Rescue Services"—Sponsored by University of Virginia School of Medicine—King's Daughters' Hospital—Staunton—March 5, 1974.

"Management of the Injured Face"—A Continuing Education Program sponsored by the University of Virginia School of Medicine—Langley Air Force Base—March 14, 1974.

E. C. Hamblen Symposium in Reproductive Biology and Family Planning—Sponsored by Department of Obstetrics and Gynecology, Duke University Medical Center—Duke Medical Center—Durham, North Carolina—March 15-16, 1974.

AMA-AMPAC Public Affairs Workshop—Washington-Hilton Hotel—Washington, D. C.—March 15-17, 1974.

Tri-State Medical Association—Annual Meeting—Hotel Roanoke—Roanoke—March 21-24, 1974.

Joint Cardiac Symposium for Physicians—Sponsored by Heart Association of Northern Virginia—Marriott Twin Bridges Motor Hotel—Arlington—April 17, 1974.

New Members.

The following members were received into The Medical Society of Virginia during the month of October:

Morton Barry Albert, M.D., Charlottesville
Aliasghar Aghdami-Nasr, M.D., Richmond
Cecilio E. Albo, M.D., Ruther Glen
Edward G. Alexander, Jr., M.D., Falls Church
Paul Richard Bauer, M.D., Portsmouth
John W. Benton, M.D., Manassas
Warren Kline Bolton, M.D., Charlottesville
Charles Thomas Bonstelle, M.D., Richmond
Gleb Gordon Bourianoff, M.D., Charlottesville
Anne Clayter Brower, M.D., Charlottesville
Robert Munson Carey, M.D., Charlottesville
Anthony Bradley Chapman, M.D., Alexandria
George Peter Contis, M.D., Washington, D. C.
Joe Malcolm Craver, M.D., Charlottesville
Michael A. Del Vecchio, M.D., Washington, D. C.
Patrick Joseph Doyle, M.D., Alexandria
Ronald Irving Dozoretz, M.D., Portsmouth
Bruce Shelby Eich, M.D., Roanoke
John Richard Frazier, M.D., Roanoke
Nelson Turner Gray, M.D., Virginia Beach
Charles Marion James, M.D., Richmond
Edward M. C. Jang, M.D., Radford
Alvin Quarles Jarrett, M.D., Virginia Beach
Balvir L. Kapil, M.D., Richmond
Barry Vincent Kirkpatrick, M.D., Richmond
George Knaysi, M.D., Richmond
Andrew S. Lanier, M.D., Salem
Peter Mark Levitin, M.D., Charlottesville
Paul Howard Lilly, Jr., M.D., Forest
Richard M. Magraw, M.D., Norfolk
Neil F. Modoff, M.D., Reston
Frank E. Michener, M.D., Alexandria
Bobby Wayne Nelson, M.D., Richmond
Peter Oberhoff, M.D., McLean
Winfred Albright Oyen, M.D., Purcellville
T. Joseph Pond, M.D., Lynchburg
Robert Alvin Pruner, M.D., Roanoke
Welden Pyle, Jr., M.D., Chesapeake
Carmelita M. San Diego, M.D., Portsmouth
David Lee Sarrett, M.D., Virginia Beach
Paul E. Schneck, M.D., South Hill
Tersito S. Serate, M.D., Lynchburg
Paul Snow, M.D., Alexandria
Charles S. Springate, II, M.D., Norfolk
Alfred F. Suarez, M.D., Fairfax
Reina M. Sumner, M.D., Alexandria
Juanito Corrales Toboada, M.D., Staunton
William Odell Thomas, M.D., Roanoke
John E. Threlfall, M.D., Bethesda, Maryland
Howard Eggar Trent, III, M.D., Charlottesville
Edwin Darracott Vaughan, M.D., Charlottesville
John Kenric Vries, M.D., Richmond
Daniel H. White, M.D., Norfolk

Dr. Carroll Installed as President.

Dr. George J. Carroll, Suffolk, was installed as president of the Southern Medical Association at its meeting in San Antonio, November 12-15. Other officers elected are: Dr. A. M. Moore, Lexington, Kentucky, president-elect; Drs. G. Gordon McHardy, New Orleans, and John J. Hinchey, San Antonio, vice-presidents; Dr. G. Thomas Jansen, Little Rock, chairman of the council; and Dr. Andrew F. Giesen, Fort Walton Beach, Florida, vice-chairman.

The 1974 meeting will be in Atlanta, November 17-20.

Danville-Pittsylvania Academy of Medicine.

Dr. John M. Stoneburner is the president of the Academy for 1974; Drs. Max Lassiter and Delos W. Boyer, vice-presidents; and Dr. Irvin Melnick, secretary-treasurer.

"Physician Heal Thyself" (VMM 10/73).

Will the author please get in touch with Lillian Fine, c/o MEDICAL ECONOMICS, Oradell, New Jersey, 07649, 201-262-3030? Confidentiality guaranteed.

Fellows of the American College of Surgeons.

The following members of The Medical Society of Virginia have been inducted as new Fellows of the American College of Surgeons:

Dr. Gerald J. Bechamps, Winchester
Dr. Allen S. Boyer, Nassawadox
Dr. Robert D. Brickman, Norfolk
Dr. Gilbert H. Bryson, Richmond
Dr. Thomas Frey, Falls Church
Dr. F. Bradley Gray, Fredericksburg
Dr. Richard J. Grayson, Jr., Roanoke
Dr. George L. B. Grinnan, Norfolk
Dr. John F. Hannon, Falls Church
Dr. L. Frank Henry, Hampton
Dr. Alan H. Jaffe, Norfolk
Dr. William Russell Jones, Jr., Richmond
Dr. Robert D. Kiesel, Arlington
Dr. John N. King, Norfolk
Dr. Roger E. King, Richmond
Dr. Kenneth S. Latchis, Fairfax
Dr. David Howe Lewis, Martinsville
Dr. Luiz E. G. Mineiro, Clifton Forge
Dr. Benjamin H. Rice, Petersburg
Dr. Wilbur L. Secrist, Dumfries
Dr. Stephen R. Shaffer, Alexandria
Dr. Mathew N. Smith, Falls Church
Dr. M. J. Vernon Smith, Richmond
Dr. T. Henry Souryal, Alexandria
Dr. Joseph R. Svoboda, Richmond
Dr. Ralph L. Swank, II, Norfolk
Dr. Ali Tavacol, Falls Church
Dr. Mauel E. Tayko, Stuart
Dr. Edward G. Thompson, Winchester
Dr. Juan A. Trinidad, Vienna
Dr. William V. Tynes, II, Norfolk
Dr. B. Sergio Valenti, Fairfax

American College of Surgeons.

The following Virginia doctors were recently elected to the Board of Governors of the American College of Surgeons: Dr. William R. Drucker, Charlottesville; Dr. Boyd W. Haynes, Jr., Richmond; and Dr. William Allen Johns, Richmond.

Dr. William Minor Deyerle,

Richmond, has been named acting chairman of the Division of Orthopedic Surgery at the Medical College of Virginia. He has been associated with the College since 1941.

Dr. Mack I. Shanholtz,

State Health Commissioner, Richmond, was elected president of the American Association of Public Health Physicians at its annual meeting in San Francisco in November.

Dr. David R. Hawkins,

Chief of Psychiatry at the University of Virginia, has been named as the upcoming president of the American Association of Chairmen of Departments of Psychiatry. He will succeed to the presidency in 1974.

New Appointments at Medical College of Virginia.

Dr. Harold J. Fallon, Chapel Hill, North Carolina, has been named chairman of the Department of Medicine. He will assume his duties on June 1st. Dr. Fallon is currently co-chairman of the Department of Medicine at the University of North Carolina.

Dr. Lawrence D. Amick, Albuquerque, New Mexico, has been named professor and chairman of the Department of Physical Medicine and Rehabilitation and professor of neurology. He has recently been professor of neurology at the University of New Mexico School of Medicine and director of the Stroke Rehabilitation Project in Albuquerque.

David M. Hume Chair.

The Board of Visitors of the Virginia Commonwealth University has created the David M. Hume Chair of Surgical Research at the Medical College of Virginia in honor of the late chairman of the department of surgery.

Stoneburner Lecture Series.

The Department of Continuing Education and the Division of Neurosurgery of the Medical College of Virginia will present the 27th annual Stoneburner Lecture Series, February 7-8. The subject will be Clinical Advances in Medical and Surgical Neurology.

The Stoneburner Lecturer will be Dr. Thomas W. Langfitt, Charles H. Frazier Professor and Chairman of the Division of Neurosurgery of the University of Pennsylvania.

The guest faculty will be: Dr. William K. Hass, New York University; Dr. John A. Jane, University of Virginia; Dr. Lawrence C. McHenry, Jr., Bowman-Gray School of Medicine; Dr. Thoralf M. Sundt, Mayo Medical School; Dr. John M. Tew, Jr., University of Cincinnati Medical College; and Dr. Charles B. Wilson, University of California. The Medical College of Virginia faculty will be: Dr. Lawrence D. Amick; Dr. Donald P. Becker; Dr. Ronald B. David; Dr. John W. Harbison; Dr. Hooshang Hooshmand; Dr. Warren H. Pearse; Dr. Cary G. Suter; Dr. Frederick S. Vines; Dr. John K. Vries; and Dr. Harold F. Young.

Further information may be obtained from the Department of Continuing Education, School of Medicine, Medical College of Virginia, Box 91, Richmond 23298.

Southern Psychiatric Association.

At the annual meeting of this Association, held in Miami in October, Dr. Gene L. Usdin, New Orleans, was installed as president, succeeding Dr. Weir M. Tucker, Richmond. Dr. Rex Blankinship, also of Richmond, was elected vice-president.

The 1974 meeting will be held at the Homestead, Hot Springs, October 5-8.

The American College of Obstetricians and Gynecologists.

At a meeting of District IV of the College, held in San Juan, Puerto Rico, October 24th, Dr. William S. Grizzard, Petersburg, was named Section Chairman, and Dr. Frank G. Turner, Danville, Section Vice Chairman for Virginia.

Symposium on Bone and Joint Radiology.

The Departments of Diagnostic Radiology and Orthopedic Surgery of the University of Kentucky Medical Center, Lexington, will conduct a symposium on Bone and Joint Radiology from May 1-3, immediately preceding the 100th Renewal of the Kentucky Derby. In the morning sessions a distinguished guest faculty will analyze radiographs of selected unknown cases that demonstrate differential diagnostic features of various types of bone and joint pathology. Each registrant will be sent copies of the radiographs prior to the meeting. Afternoon sessions will be devoted to informal discussions.

For further details and an application form, write Ronald D. Hamilton, M.D., Director, Continuing Education, College of Medicine, University of Kentucky, Lexington, Kentucky 40506.

Evaluation of Hyperimmune Gamma Globulin for Preventing Serum Hepatitis.

It is well recognized that medical and paramedical personnel have a greater than normal risk of developing hepatitis as a result of accidental inoculation (needle stick, broken glassware, ingestion of contaminated blood at the time of pipetting, etc.). Current evidence indicates that standard gamma globulin provides little or no protection against developing serum hepatitis.

The Richmond Veterans Administration Hospital is participating in a national cooperative study together with the National Institute of Health in which the effectiveness of hyperimmune gamma globulin (with high titer antibody against Australian Antigen) will be compared to that of standard gamma globulin on a random basis.

All those accidentally exposed to hepatitis virus (excluding blood transfusion) from the Richmond area, willing to participate in the study and receive treatment, are invited to call Dr. Z. R. Vlahcevic or Dr. D. L. Mackenzie at the Veterans Administration Hospital, Richmond, as soon as possible after exposure.

Medical Building, Manassas, Virginia.

Design your own suite in the beautiful new four-story Doctors' Center. Best location, ad-

jacent to open staff general hospital and doctors' park. Manassas is located about 20 miles from downtown Washington, in the middle of the fastest growing county. Present 165 bed hospital is projected to expand to 500 beds within 5-6 years. Unique opportunity for GP or all specialties in this prime location. Inquire: L. T. Gravatte, 5515 Cherokee Avenue, Alexandria, Virginia 22312. Telephone 703-354-8500. (*Adv.*)

Opportunity for Physicians—

Internist, family practice, ophthalmologist, otolaryngologist—in Shenandoah County, population approximately 26,000, in the Valley of Virginia. Served by a 129 JCAH general hospital with radiology and pathology services, modern laboratory, x-ray department, emergency rooms, physical and inhalation therapy facilities and an adjacent physicians' office building. Drugstores and ambulance service. Good churches and schools; easy commuting distance of 4 four-year colleges and new community college. Recreational facilities include small game hunting, fishing and expanding winter sports. On I-81, north and south, Dulles International Airport approximately 80 miles. Richmond, 2½ hours and Washington, 2½ hours. Contact Stanley B. Kamm, Administrator, Shenandoah County Memorial Hospital, Woodstock, Virginia 22664. Phone 703-459-2131. (*Adv.*)

Emergency Department Physician

To join seven-man group (established 1967, ages early 30's to 50's) covering Johnston-Willis Hospital (360 beds, residential location) and Chippenham Hospital (200 beds, suburban). Fee for service. Minimum guarantee and percentage of fees.

Contact Reuben Broaddus, M.D., Johnston-Willis Hospital, Richmond, Virginia 23221. Phone (804) 359-9111, ext. 243. (*Adv.*)

Obituary . . . .

Dr. Joseph Arthur Gallant,

Richmond, died November 10, at the age of seventy-two. He graduated from McGill University School of Medicine, Montreal, Canada, in 1928. Dr. Gallant had made his home in Richmond for forty-five years. He was a retired Captain in the United States Navy. Dr. Gallant had been a member of The Medical Society of Virginia since 1928.

His wife and two sons survive him.

Dr. Joseph E. Anderson, Jr.,

Roanoke, died October 19 at the age of 49, following an illness of several months.

He received his A.B. Degree from Georgetown College and his M.D. Degree from the University of Tennessee in March 1956. As many of his generation his education was interrupted by World War II, during which he served three years in the United States Navy.

Dr. Anderson served his internship at Roanoke Memorial Hospital from 1956 to 1957 at which time he entered general practice in Roanoke, earning the love and respect of all with whom he associated. Following a two year residency at the University of Virginia Hospital he returned to Roanoke to practice anesthesiology, where he was greatly instrumental in forming the Department of Anesthesiology and was Chief of Anesthesia at Roanoke Memorial Hospital when death occurred. His influence was felt in the decision of many finely trained anesthesiologists to locate in this community.

He was a faithful member of the Second Presbyterian Church where he taught an adult Sunday School Class. He served as Vice President of the Roanoke Memorial Hospital Foundation and was for several years Treasurer of the Virginia Society of Anesthesiologists.

Dr. Anderson is survived by his wife, four daughters, two sons, as well as his father.

To his friends, his associates and his patients, Joe Anderson was an unselfish man. He was willing to advise his old patients ten years after leaving general practice; willing to share his home with a new associate, and was a man loved and respected by all who knew him.

Now, THEREFORE LET IT BE RESOLVED that this memorial expression by his colleagues be inscribed in the minutes of the Roanoke Academy of Medicine; published in the Virginia Medical Monthly, and a copy delivered to his family.

J. E. GEORGE, M.D.
GEORGE H. CUDWORTH, M.D.
WILLIAM S. ERWIN, JR., M.D.

Dr. Carney.

Dr. Joseph Willis Carney, Newport News, died August 19, following a heart attack aboard his boat in Back River.

Dr. Carney, 64, had been in the private practice of general medicine on the Peninsula since 1947.

A native of Portsmouth, he was a 1929 graduate of the College of William and Mary and a 1933 graduate of the Medical College of Virginia. He entered private practice in 1935 in Logan, West Virginia, working there until 1946. He started his practice in Newport News in 1947.

Dr. Carney was a past president of the Warwick-Newport News Medical Society, secretary-treasurer of the Riverside Hospital General Staff 1958 to 1959, was a member of the Board of Censors Newport News Medical Society from 1959 to 1962 and was chairman of the Finance Committee of the Riverside Hospital.

He was president of the Hampton Roads Academy of General Practice in 1963. He served as secretary of the Virginia Academy of General Practice from 1962 to 1968. He was third vice-president of the Seaboard Medical Association in 1965. He was a past president of the Royal Stag Hunt Club, and a member of the Local Order of the Moose Lodge 1119.

He was a great lover of the outdoors. He enjoyed hunting, fishing and boating with his friends.

Dr. Carney is survived by his widow, three daughters, a son, three sisters, a step daughter, two grandchildren and four step grandchildren.

WHEREAS the Medical Society has lost a distinguished member and a friend, and

WHEREAS this community has lost an outstanding physician,

BE IT RESOLVED, THEREFORE, that the Newport News Medical Society enter in its minutes these remembrances of Dr. Carney and convey sympathy to his family and,

BE IT RESOLVED, that a copy of these resolutions be sent to Dr. Carney's family, and

BE IT FURTHER RESOLVED, that copies of these resolutions be sent to The Medical Society of Virginia for publication in the Virginia Medical Monthly.

WILLIAM HART WOODSON, M.D., *Chairman*
PAUL B. GIVENS, JR., M.D.

Dr. Meador.

Carl Wise Meador, Jr., was born in Richmond, November 16, 1912. He was graduated from the University of Richmond in 1932 and from the Medical College of Virginia in 1936. After internship at the Retreat Hospital, he entered private practice in general medicine.

Dr. Meador was an excellent, conscientious physician. He enjoyed the practice of medicine, and had a large clientele of faithful, devoted patients. He was a member of the Richmond Academy of Medicine, The Medical Society of Virginia, the American Medical Association and the Virginia Academy of General Practice. He had served as President of the Richmond Academy of Medicine and the Virginia Academy of General Practice. This month he was to have been inducted into the American College of Family Physicians as a Fellow.

In his personal life, Dr. Meador was a man of charm and wit. He and Mrs. Meadow were known and loved by a large circle of friends. He was active in the affairs of First Presbyterian Church, serving as Chairman of the Diaconate during his term as a deacon.

He was a member of the Country Club of Virginia, an avid golfer and enthusiastic traveler. At the conclusion of a vacation in northern Europe, he and his wife, Margaret, expired in a hotel fire in Copenhagen, Denmark, September 1, 1973.

Dr. Meador is survived by three daughters, and a brother, Dr. Blake Meador. His loss is inestimable and will be keenly felt by his family, his patients, and his colleagues.

THEREFORE, BE IT RESOLVED that this resolution be spread upon the minutes of the Richmond Academy of Medicine and a copy of it be sent to his devoted family.

HUNTER S. JACKSON, M.D.
J. WARREN MONTAGUE, M.D.

Dr. Eastham.

Dr. John P. Eastham was born January 12, 1910, in Culpeper, and died September 1, 1973 with his wife, Estelle, and his close friends and neighbors, Carl and Margaret Meador, in the tragic Hotel Hafnia fire in Copenhagen, Denmark.

The son of a general practitioner, Pete Eastham was intensely interested in the practice of medicine from a very early age. He attended William and Mary College and graduated from the Medical College of Virginia, receiving his M.D. degree in 1937. After two years on the house staff at Stuart Circle Hospital and a year in general practice, he served a residency in surgery at New York Polyclinic Hospital, New York City, completing this in 1942.

Dr. Eastham was associated with the late Dr. Arthur S. Brinkley in the practice of surgery in Richmond from 1946 until 1958, when Dr. Brinkley retired. He was on the staff of many hospitals, as well as the faculty of the Medical College of Virginia. He was a Fellow of the American College of Surgeons, a Fellow of the Southeastern Surgical Congress, as well as a member of many local and national medical societies.

Dr. Eastham became a member of the U. S. Army Reserve in 1937, and was on active duty from 1942 until 1946. He continued his active reserve status after World War II and retired as a Colonel in the Medical Corps, but maintained his military interests, acting as a surgical consultant with frequent regular visits to Fort Eustis, Virginia.

Pete Eastham will be remembered as a skillful, conscientious and sympathetic physician and surgeon who had a large circle of friends in the profession and a very large number of grateful patients.

His abilities were not limited to his medical and surgical acumen, but were most varied. His interest and knowledge in motors, mechanical equipment and electricity was that of a professional. He loved boats and fishing, being quite an accomplished waterman, and maintained this interest until several years ago, when time and the pressures of a large practice prevented his enjoyment of his boat. He was an avid gardener, equally capable in this field. His abilities and versatility made Pete the original "Do it yourself man".

Dr. Eastham is survived by a son and a daughter, a brother and a sister.

His tragic death deprived us of a very beloved and valuable member of the Community.

Whereas, the Academy has lost a distinguished member and friend, and, Whereas, Virginia has lost a very prominent, but modest physician and surgeon.

Be it resolved, therefore, that the Richmond Academy of Medicine enter these remembrances of Dr. Eastham in its minutes and convey sympathy to his family.

Kenneth J. Cherry, M.D., *Chairman*
Frank Pole, M.D.

Dr. Murphy.

Dr. James William Murphy, Newport News, died suddenly August 30, 1973, at the age of 49 years.

Dr. Murphy was a graduate of Harvard University and Cornell Medical School. He was born in Brooklyn, New York, but had lived and practiced in Newport News since 1954. He held membership in both medical societies, The Medical Society of Virginia and was a Fellow in the American Academy of Pediatrics. Dr. Murphy was a member of the First Baptist Church, the Warwick Masonic Lodge, the James River Country Club, the Hampton Roads Assembly and the German Club. He also served two years in the U. S. Air Force.

He is survived by his wife and three children, and also by his mother and father and several brothers and sisters of New York.

The Newport News Medical Society wishes to express its deepest sympathy to the family with the knowledge that Dr. Murphy was an excellent physician, dedicated to his work, and highly respected by all who knew him.

Whereas this society has lost a valuable member and

Whereas this community has lost a fine physician

Be it resolved therefore that these resolutions be made a permanent record of our society minutes, and be it resolved that a copy of these resolutions be sent to The Medical Society of Virginia for publication in the Virginia Medical Monthly,

And be it further resolved that a copy of these resolutions be sent to Mrs. Lois Coleman Murphy and her children.

F. N. Thompson, M.D.

Dr. Smith.

Dr. Jerome F. Smith was a valued member of the medical community of Richmond from February 1967, until his untimely death September 21, 1973. During most of that period Dr. Smith served as Medical Director of the Richmond Memorial Hospital, retiring from that office December 31, 1972.

Sometimes patients make the best therapists.

Our patients are just as responsible for making the therapeutic process work as any staff member.

The Human Resource Institute of Norfolk exists as therapeutic communities for adults and the intensive treatment of adolescents. Patients and staff interact on an egalitarian basis. And as co-therapists our patients discover with their peers the meaning of the events leading to their admission.

As a privately licensed psychiatric hospital, we specialize in a full range of therapeutic services. Our staff consists of psychiatrists, psychologists, social workers, milieu therapists, experienced psychiatric nurses, and specialists in the recreational and creative arts.

To find out more about our comprehensive program of psychiatric services, contact the Medical Co-Directors, Dietrich W. Heyder, M.D. and Fathy A. Abdou, M.D., Human Resource Institute of Norfolk, The Human Resources Building, 100 Kingsley Lane, Norfolk, Va. 23505. Phone (804) 489-1072.

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Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

Precautions: As with other thyroid preparations, an overdosage of SYNTHROID (sodium levothyroxine) may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, such as Addison's Disease (chronic adrenocortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patie with cardiovascular disease; development chest pains or other aggravations of cardiov cular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myoc dial infarction. **Side effects:** The effects of S THROID (sodium levothyroxine) therapy are s in being manifested. Side effects, when they occur, are secondary to increased rates of bo metabolism; sweating, heart palpitations w or without pain, leg cramps, and weight lo Diarrhea, vomiting, and nervousness have a been observed. Myxedematous patients w heart disease have died from abrupt increa in dosage of thyroid drugs. Careful observat of the patient during the beginning of any t roid therapy will alert the physician to any toward effects.

It has been shown that *Synthroid* (T_4) converts to T_3 at the cellular level to supply metabolic needs.[1, 2]

1 *Synthroid* is T_4.

2 Because T_4 converts to T_3 at the cellular level, it provides full thyroid replacement at maintenance doses.[1, 2]

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4 *Synthroid* is assayed chemically; no biologic test is necessary to measure potency.

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6 *Synthroid* is the most prescribed brand name of thyroid in the U.S. and Canada.

7 Sodium levothyroxine in *Synthroid* tablets is chemically pure. It does not contain any animal gland parts.

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In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, U.S.P., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) **for Injection** may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. *49*:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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Rondomycin®
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines

WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

ADVERSE REACTIONS: **Gastrointestinal** (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

USUAL DOSAGE: **Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, "Rondomycin" (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of "Rondomycin" (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: "Rondomycin" (methacycline HCl): 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71

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When the focus is on bronchitis due to susceptible strains of *H. influenzae* and pneumococci*

Rondomycin® 300 mg. Capsules

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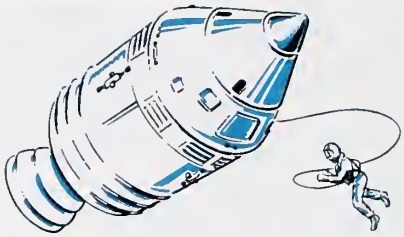
Delivers from the very first dose:

tudies show that after the first dose serum levels rapidly rise above minimum *in vitro* inhibitory concentrations

*Since many strains are known to be resistant, routine sensitivity testing is recommended.



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Dr. Smith brought to our community a long experience in medicine, commencing with graduation from Stanford University School of Medicine in 1934, and including post graduate training in Public Health and Internal Medicine at Stanford University, and subsequent experience both in the private practice of internal medicine in San Diego, California, and in the Medical Corps of the United States Navy.

Jerome Smith was instrumental in bringing about many improvements in the Richmond Memorial Hospital, including the development of new facilities in Nuclear Medicine, an Intensive Care Unit, a Coronary Care Unit, a Pulmonary Function Laboratory and Inhalation Therapy Service. He was particularly interested in the problem of long-term support within our community of patients with renal insufficiency and his interest led to the development of a chronic hemodialysis unit at the Richmond Memorial Hospital and a training program there to equip patients for home dialysis.

Jerome Smith was above all else a devoted friend and counselor to his colleagues, a loyal supporter of the institution he served, and a devoted husband and father. He is survived by his widow, two sons, a daughter and four grandchildren.

Therefore be it resolved that the Richmond Academy of Medicine express its gratitude for the years that Jerome Smith dedicated to our community and that we convey to his family our sense of loss in his passing.

Robert O. Williams, M.D.
I. Norman Sporn, M.D.

Dr. Garcia.

Dr. William Richard Garcia, Sr., 64, Covington, Virginia, died April 20, 1973, following an extended illness.

He was born April 3, 1909 in Guatemala City, Guatemala. He was an August 1940 graduate of the Universidad National de Guatemala, receiving his doctor of medicine degree.

Dr. Garcia came to the United States in 1947 on a fellowship with the U. S. Public Health Service, serving his internship at the Leo N. Levi Memorial Hospital, Hot Springs, Arkansas.

He served his residency at St. Mary's Hospital, Knoxville, Tennessee, and for four years served on the staff of the Pineville Community Hospital, Pineville, Kentucky. He came to Covington in October 1956 and since 1967 has operated the Garcia Clinic.

Dr. Garcia was a member of the Alleghany-Bath County Medical Society, The Medical Society of Virginia, the American Society of Abdominal Surgeons, the Southern Medical Association, the National Medical Society of Guatemala, and the Sacred Heart Catholic Church.

He is survived by his wife, two sons, three brothers, and two sisters.

Therefore, be it resolved, that this resolution be added to the minutes of the Alleghany-Bath Medical Society.

Be it also resolved, that a copy of this resolution be sent to his family and to the Editor of the Virginia Medical Monthly for publication.

William J. Ellis, M.D.

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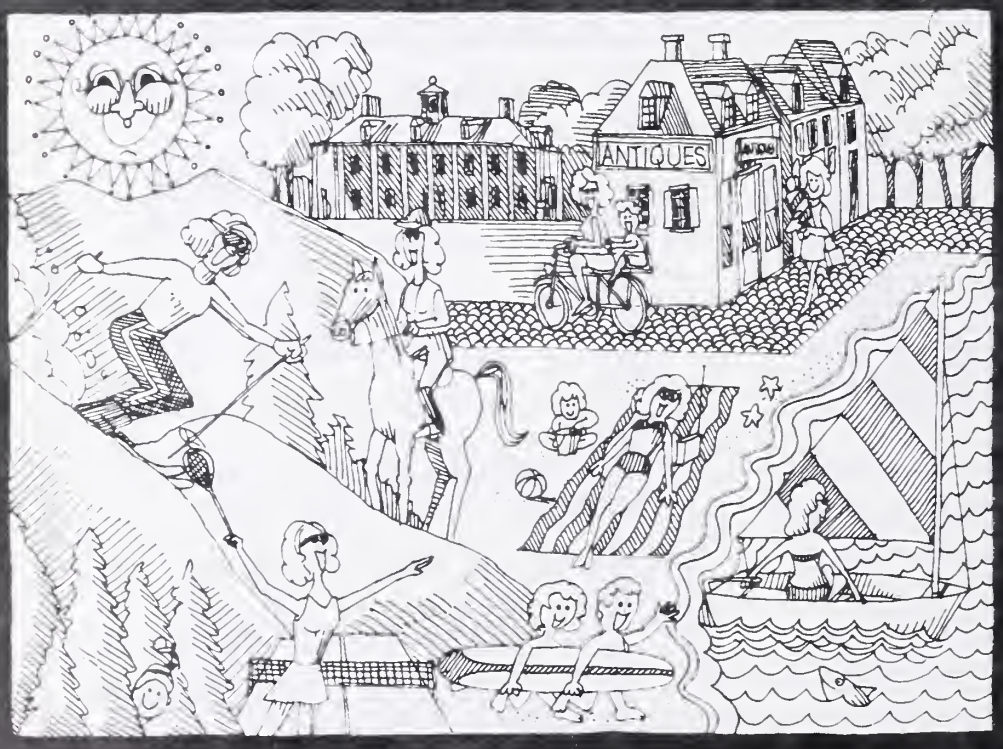

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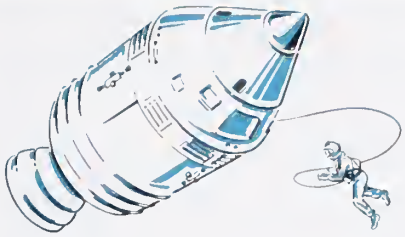

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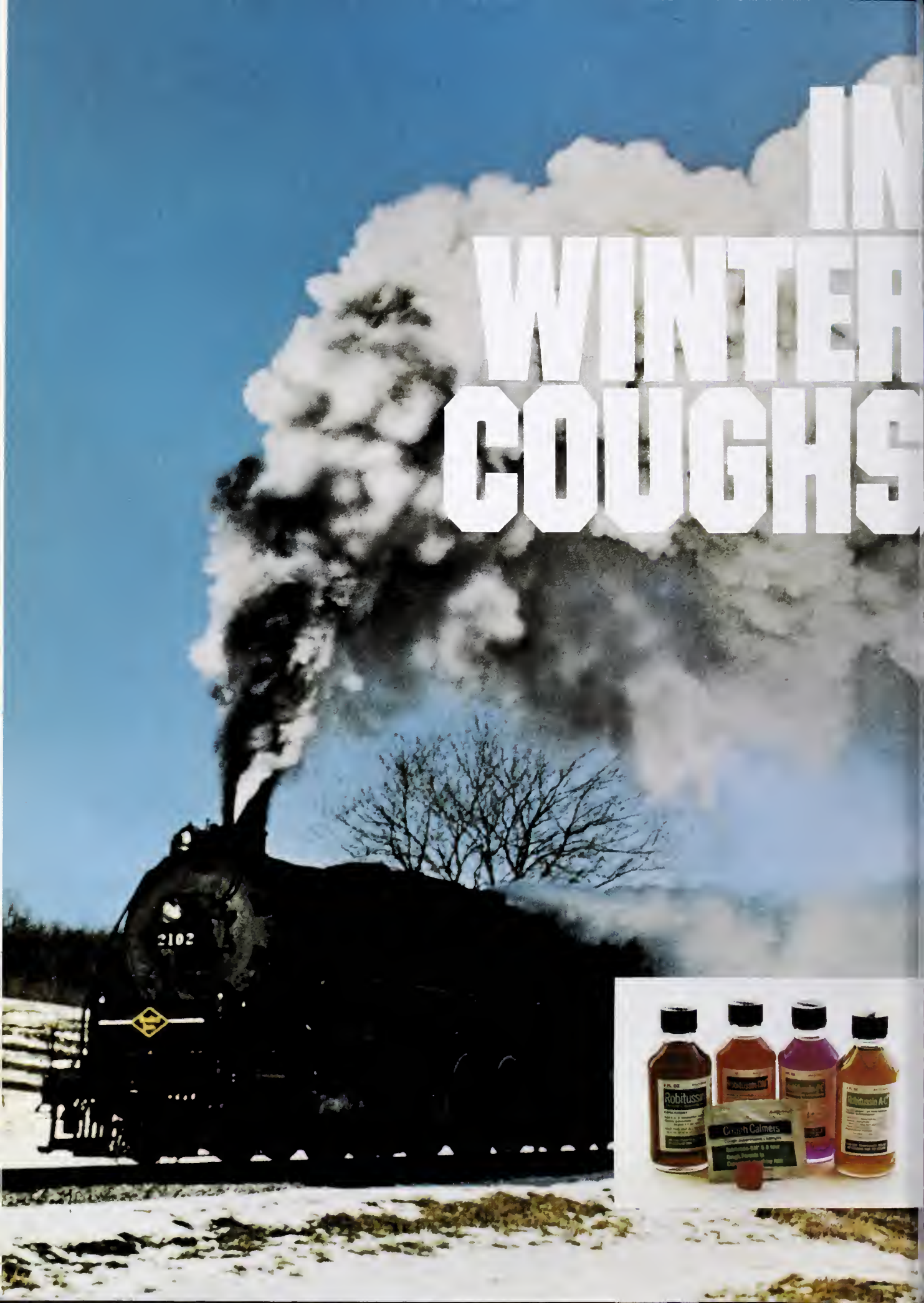
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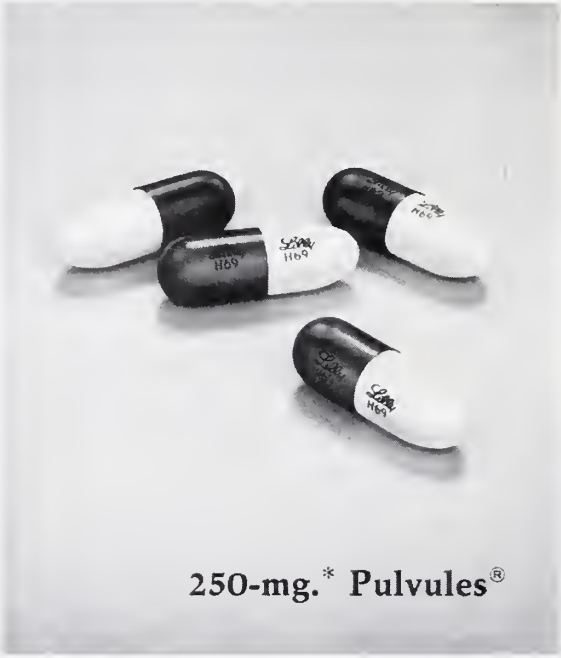

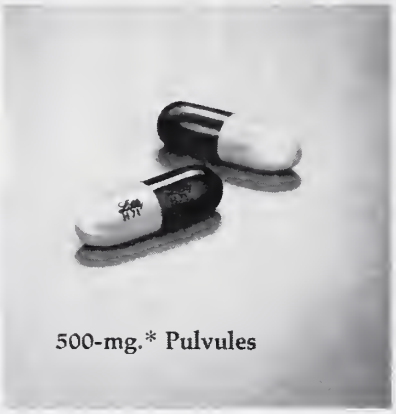

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Guest Editorial . . . .

Prehospital Emergency Cardiac Care in the Commonwealth

IN THE PAST THREE YEARS, community-wide systems for prehospital cardiopulmonary resuscitation and emergency cardiac care have started to serve Charlottesville and Albemarle County[1], Waynesboro, Haysi, and Virginia Beach. Superficially different because of necessary adaptation to local needs and resources, these four systems provide prehospital treatment of the two commonest coronary events: early myocardial infarction and sudden, but reversible coronary death due to dysrhythmias. Elsewhere in this issue of the Virginia Medical Monthly, reports from the Commonwealth's second and third prehospital emergency cardiac care systems indicate the favorable results attained when people are treated in the early stages of heart attack outside the hospital.

The achievements of prehospital emergency cardiac care in the Commonwealth have mirrored international experience. Two-thirds of patients with prehospital cardiac arrest due to acute myocardial infarction treated with prompt prehospital cardiopulmonary resuscitation survive to resume active life (Table), a record equal to if not slightly superior[8] to that observed in

TABLE

PREHOSPITAL CORRECTION OF CARDIAC ARREST IN ACUTE MYOCARDIAL INFARCTION

	Prehospital Saves	*Left hospital to resume normal life*	
	No.	*No.*	*%*
Belfast (2)	36	24	66.6
Ballymena (3)	5	3	60.0
Charlottesville-Albemarle County (4)	20	13	65.0
Dublin (5)	20	11	55.0
Portland (6)	14	7	50.0
Seattle (7)	24	21	87.5
	119	79	66.4

patients with cardiac arrest from acute myocardial infarction resuscitated in the hospital[9]. Furthermore, one long term followup of patients with acute myocardial infarction indicates an 86% survival rate two years after correction of ventricular fibrillation outside the hospital[7].

In 1971 a model system begun in Charlottesville and Albemarle County involved collaboration of personnel from the Charlottesville-Albemarle Rescue Squad and the Department of Medicine at the University Medical Center[1]. Rescue workers, coronary nurses, and physicians screened calls from the public for chest pain and sudden collapse. Persons suspected of experiencing acute coronary events were always seen by a team of rescue workers trained in cardiopulmonary resuscitation and frequently by a resident physician from the emergency room who provided definitive cardiac treatment including defibrillation. During the first two years, significant reduction occurred in rates for coronary death in ambulances, in prehospital coronary death in people under 69 years of age, in coronary artery disease as a cause of death, and in coronary death per 1000 people in Charlottesville and Albemarle County[1, 4]. This prehospital emergency service also served as an educational resource in cardiopulmonary resuscitation and in emergency cardiac care for the emergency medical technician (EMT), physician, nurse, and medical and nursing student.

Since Waynesboro, like most communities, does not have a hospital with a physician house staff constantly available, the Waynesboro prehospital emergency cardiac care system relies upon a rescue team which goes directly to the patient while a squad car collects the coronary nurse, cardiac drugs, and monitor-defibrillator from the hospital. The nurse carries out the same routine definitive therapy outside the hospital as inside the hospital coronary care unit or inside the emergency room. Nurse staffing the mobile coronary care unit (MCCU) is invaluable for the community where the physician is not always immediately available for mobile coronary care and also has worked well in a large metropolitan setting[10].

Not surprisingly, mobile coronary care has been incorporated into that pragmatic speciality, family partice in rural southwest Virginia. In Haysi, a patient with acute myocardial infarction must ride for an hour in an ambulance over difficult terrain to the nearest hospital coronary care unit. This transport time includes the early phase of acute myocardial infarction when the risk of sudden death is greatest[11, 12]. The physician, drugs, intravenous drip, and monitor-defibrillator accompany the patient in the ambulance from rural Haysi right into the hospital coronary care unit in Wise.

The Virginia Beach Emergency Coronary Care Program represents the largest scale of community effort with financial support from the Virginia Regional Medical Program and educational aid in training in cardiopulmonary resuscitation from the Virginia Heart Association. A cardiopulmonary resuscitation training program for rescue workers, begun in 1968 under the direction of Doctors William A. Dickinson and James P. Charlton, blossomed in August 1973 into a sophisticated radio communication system linking the newly certified cardiac EMTs and ambulances of 12 rescue squads with the General Hospital of Virginia Beach. The legal framework was established in 1972 when the General Assembly of Virginia amended the law to protect the EMT rendering definitive therapy and resuscitation provided adequate training approved by the Board of Health had been undertaken and certified by examination[13]. Under the direction of Doctor W. A. Dickinson, an Ad

Hoc Committee of the Emergency Medical Service Division of the Virginia Board of Health met regularly during 1973 and assembled the requirements for organizing and conducting a course for cardiac EMTs. When a rescue worker has successfully passed the 81 hour basic EMT course[14], has qualified as a Virginia EMT, and has been certified in cardiopulmonary resuscitation by the Virginia Heart Association program (which uses the standards of the American Heart Association), he becomes eligible to embark upon the 100 hour cardiac EMT course developed and approved by the State Board of Health[15]. A manual for training rescue workers in technics of prehospital emergency cardiac care which incorporates most of the Virginia State requirements is already in use in emergency cardiac care programs in Charleston, West Virginia, Miami and Miami Beach, Florida, Philadelphia, Pennsylvania and Syracuse, New York[16]. The Virginia Beach community wide emergency coronary care program began to function in August 1973. The physician at the General Hospital of Virginia Beach advises the cardiac EMT about treatment after receiving a description of the patient's symptoms and vital signs and after inspection of the radio-telemetered electrocardiogram. In the first three months of operation, one patient with acute myocardial infarction and ventricular fibrillation experienced successful prehospital resuscitation and defibrillation and is now back at work[17].

Although four of Virginia's communities are now among the nation's leaders in prehospital emergency cardiac care, there presently is only one such system for each million residents of the Commonwealth. Although the total system approach to coronary care[18] is nationally recognized and sensible guidelines for medical[19] and lay[20] communities exist, there remains much work for Virginia's physicians, nurses, rescue workers, and lay community leaders before all the Commonwealth's citizens can rely upon adequate systems for prehospital emergency cardiac care in their communities.

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Richard S. Crampton, M.D.

Box 158
University of Virginia Medical Center
Charlottesville, Virginia 22901

Surgical Treatment of Hyperparathyroidism

CLAIBORNE W. FITCHETT, M.D.
ROBERT L. PAYNE, JR., M.D.
Norfolk, Virginia

During the past 10 years there has been a spurt in interest in hyperparathyroidism. This is due to widespread multiphasic screening in general hospitals giving accurate serum calcium levels on a large number of patients. It is also due to advancement in management of patients in chronic renal failure. Experience with 40 surgically treated cases is presented, diagnostic and therapeutic procedure are evaluated.

ALTHOUGH THE SUCCESSFUL MANAGEMENT of primary hyperparathyroidism has been known since 1926 when Mandl[1] first removed a functioning parathyroid adenoma, until recently reports of large series of cases were limited to a few university medical centers.[2,3,4,5] Most physicians had very little experience in diagnosis and management of such cases. This situation remained static until the mid nineteen sixties when two developments stimulated interest in this problem. The first was the development of multiphasic screening of patients admitted to general hospitals. The second development was the advancement in management of patients in chronic renal failure with renal dialysis and transplantation. The use of the autoanalyzer made the accurate measurement of serum calcium levels a routine laboratory test. The discovery that large numbers of patients had hypercalcemia stimulated the medical community into renewed study of calcium metabolism and parathyroid function. Almost at once reports of increased numbers of cases of hyperparathyroidism due to adenomas appeared in the literature.[6,7] The other causes of hypercalcemia became better understood as well as more numerous.

The effects of hypercalcemia on the kidneys had been described years ago by Albright and others.[8] Some mention had also been given to the effects of renal disease on the parathyroid glands.[9] The investigations of numbers of patients on chronic renal dialysis and patients undergoing renal transplantation provided a much better understanding of parathyroid function. Reports of parathyroidectomy to control secondary and tertiary hyperparathyroidism began to appear in the journals.[10,11]

Our interest in parathyroid surgery began in the early nineteen sixties largely stimulated by our urological friends. Further interest was generated by experiences in managing two cases of hyperparathyroid crisis in 1962. These two cases were reported along with a review of the literature in 1965.[12] Despite this special interest our series of surgical cases remained small until 1970 (see table 1). Only 13 cases of hyperparathyroidism were treated surgically from 1950 through 1969 at the Norfolk General Hospital. Since that time the story has changed rather markedly. Twenty-seven patients have undergone parathyroid surgery in the past 39 months.

Review of Cases

As of April 1, 1973, forty patients comprise the surgical experience in hyperparathyroidism at the Norfolk General Hospital (see table 2). Twenty-five patients have been females and fifteen males. Our youngest patient was

From the Department of Surgery, Medical Center Hospitals, Norfolk General Division.

Presented at the meeting of Virginia Surgical Society, Williamsburg, May 4, 1973.

17 years of age and the oldest 80 years. The largest parathyroid adenoma was 10 grams

TABLE 1

HYPERPARATHYROIDISM

NORFOLK GENERAL HOSPITAL

INCIDENCE OF CASES BY YEARS	
1950 - 1960	2 CASES
1961 - 1965	8 CASES
1966 - 1969	3 CASES
1970	6 CASES
1971	10 CASES
1972	7 CASES
1973 (3 Mos.)	4 CASES
TOTAL	40 CASES

and ten adenomata were three grams or more. Fifty-five percent of our patients were females

TABLE 2

HYPERPARATHYROIDISM

1950 - 1973

NORFOLK GENERAL HOSPITAL

SURGICAL CASES

TOTAL NUMBER CASES 40
25 FEMALES
15 MALES

YOUNGEST PATIENT - 17 YEARS
OLDEST PATIENT - 80 YEARS

LARGEST ADENOMA - 10 GM.
TEN ADENOMATA OVER - 3 GM.

over the age of 45 (see table 3) and 78 percent of all patients were over this age. This increased incidence in older females has been noted by others.[13]

Hyperparathyroidism is not only a disease of stones and bones. Hypercalcemia may affect any or all systems of the body. Fifty-five percent of our patients had a history of renal stones or calcifications (table 4). Only eleven cases (28%) had evidence of bone disease.

Fifteen percent of the patients gave histories of duodenal ulcer and one case had proven acute pancreatitis. Many other patients had histories of digestive disturbances but accurate diagnosis was not possible. Six cases had symptoms attributable to the nervous system. Two patients were admitted to the hospital for study of hypertension. Another individual was initially studied for fever of unknown origin. One 17 year old boy was admitted to the psychiatric ward after an attempted suicide. Many patients had symptoms involving multiple systems. The so-call asymptomatic hyperparathyroid patient was usually found to have symptoms due to the hypercalcemia on close questioning.

Laboratory Studies

An elevated serum calcium has been our most consistant and important diagnostic test. Once the secondary causes of hypercalcemia have been ruled out the diagnosis of primary hyperparathyroidism can be assured. Only two patients in our series had serum calciums of less than 10.5 mg. %. One patient with no symptoms and a calcium of 9.3 mg. % was found to have a parathyroid adenoma within the thyroid gland following thyroidectomy for nodular goiter. The other patient underwent parathyroidectomy for the control of multiple and recurrent urinary calculi—a case of normocalcemic hyperparathyroidism.[14]

The second most important test is the radioimmunoassay of circulating parathyroid hormone. We have had little experience with this test—i.e., limited to four cases—all elevated. With the recent synthesis of parathyroid hormone, it is hoped that this laboratory test will become more reliable and widespread in its

use.[15] This may become the most important diagnostic test in primary hyperparathyroidism and its use will be mandatory in the diagnosis of secondary hyperparathyroidism.

Hypophosphatemia is an additional finding of great diagnostic importance. A serum phosphorus of 3.0 mgm. % or lower was found in thirty-one of our patients. It is important to remember that as the kidneys are damaged by stones or nephrocalcinosis the serum phosphorous will rise.

TABLE 3

HYPERPARATHYROIDISM

1950 - 1973

NORFOLK GENERAL HOSPITAL

SURGICAL CASES

INCIDENCE AS RELATED TO SEX AND AGE

	MALE	FEMALE
UNDER AGE 45	4 CASES	3 CASES
OVER AGE 45	11 CASES	22 CASES (55%)
TOTAL	15 CASES (37%)	25 CASES (63%)

TABLE 4

HYPERPARATHYROIDISM

1950 - 1973

NORFOLK GENERAL HOSPITAL

SURGICAL CASES

SYSTEMS INVOLVED	CASES
KIDNEY DISEASE	22 (55%)
BONE DISEASE	11 (28%)
DUODENAL ULCER	6 (15%)
NEUROLOGICAL SYMPTOMS	6 (15%)
PANCREATITIS	1 (2%)

The measurement of the tubular reabsorption of phosphate is another helpful laboratory determination. Parathyroid hormone depresses the reabsorption of phosphates from the renal tubules. When the reabsorption rate falls below 85% of normal it is an indication of excessive amounts of hormone in the system. Again, our experience with this test is limited. Determinations were made on only ten patients and five were reported as below 85%.

Although parathyroid hormone causes an increase in the tubular reabsorption of calcium from the urine many patients with hyperparathyroidism have hypercalcinuria—simply the kidney has to excrete the large amounts of calcium offered to it. Twenty-four of our pa-

tients had careful determinations of urinary calcium excretions per day on low calcium diets. Only 42% of these patients showed excessive amounts of calcium excretion in the urine (table 5).

Pathological Findings

All forty patients in the Norfolk General Hospital series have undergone exploration of the neck and excision of one or more parathyroid glands (table 6). One patient has had two neck explorations without the removal of any abnormal parathyroid tissue. He has refused mediastinal exploration. In thirty patients a single abnormal parathyroid gland (adenoma) has been found in the neck and removed with relief of hypercalcemia. In each of these cases an effort has been made to identify the other parathyroid glands and in many instances to biopsy them. Two patients were found to have two adenomas and in three cases hyperplasia of all four of the parathyroid glands was found.

All of the parathyroid adenomas were found within the neck except one. In this instance the patient had a negative neck exploration and later died of a myocardial infarction. The adenoma was found deep in the mediastinum at autopsy (table 7).

Discussion

With increased experience in recent years we have arrived at certain conclusions about parathyroid surgery. Unexplained persistent hypercalcemia remains "the corner stone" in the diagnosis of hyperparathyroidism. A persistently low serum phosphorous makes the diagnosis more certain. An elevated serum parathyroid hormone level then confirms the diagnosis. The absolute diagnosis must then be made by surgical exploration and removal of hyperfunctioning parathyroid tissue. Our

TABLE 5

HYPERPARATHYROIDISM

URINARY EXCRETION OF CALCIUM MGM./24 HOURS		
NUMBER OF CASES TESTED	29	
URINARY CALCIUM UNDER 100 MGM.	5	
URINARY CALCIUM BETWEEN 100-200 MGM.	4	17 (58%)
URINARY CALCIUM BETWEEN 200-300 MGM.	8	
URINARY CALCIUM BETWEEN 300-400 MGM.	5	
URINARY CALCIUM BETWEEN 400-500 MGM.	3	12 (42%)
URINARY CALCIUM BETWEEN 500-600 MGM.	2	
URINARY CALCIUM OVER 600 MGM.	2	

principle is now to identify and biopsy all normal parathyroid glands first and then to remove all abnormal parathyroid tissue. Before any tissue is biopsied or removed all four parathyroid glands are exposed. The normal appearing glands are biopsied and then in 75% of our cases a single enlarged adenoma was removed. Many authorities feel it unnecessary to biopsy the normal parathyroid glands if a single adenoma is found and removed. Our experience would certainly confirm this opinion in three-fourths of the cases. In the remaining twenty-five percent of cases, however, failure to biopsy the normal appearing glands might lead to failure. Multiple adenomata are found in five percent of the cases of hyperparathyroidism. Generalized hyperplasia of all the parathyroid glands will occur approximately ten percent of the time. Nodular hyperplasia of two, three, or four parathyroid glands has been reported with increasing frequency. Thus only by accurate identification of all parathyroid tissues can the surgeon with

TABLE 6

HYPERPARATHYROIDISM

1950 - 1973

NORFOLK GENERAL HOSPITAL

SURGICAL CASES

DIAGNOSIS

I.	PRIMARY HYPERPARATHYROIDISM	
	A. SINGLE ADENOMA	
	NECK	30 (75. %)
	MEDIASTINUM	1 (2.5 %)
	B. MULTIPLE ADENOMATA (TWO)	2 (5. %)
	C. PRIMARY HYPERPLASIA	3 (7.5 %)
	D. NEGATIVE NECK EXPLORATION	1 (2.5 %)
II.	SECONDARY HYPERPARATHYROIDISM WITH HYPERPLASIA	1 (2.5 %)
III.	PSEUDOHYPERPARATHYROIDISM (ECTOPIC HYPERPARATHYROIDISM)	1 (2.5 %)
IV.	NORMOCALCEMIC HYPERPARATHYROIDISM	1 (2.5 %)
	TOTAL	40 (100. %)

assurance remove the abnormal tissue and relieve the hypercalcemia.

Summary

A review of forty patients with hyperparathyroidism treated surgically at the Norfolk General Hospital in the past twenty-three years has been presented. A marked increase in incidence of the diagnosis of the disease has been noted. An elevated serum calcium remains the most important diagnostic test. A meticulous surgical exploration of the neck confirms the diagnosis by identification and removal of all abnormal parathyroid tissue.

TABLE 7

HYPERPARATHYROIDISM

1950 - 1973

NORFOLK GENERAL HOSPITAL

SURGICAL CASES

ANATOMICAL LOCATION OF SINGLE AND MULTIPLE ADENOMAS	
RIGHT SUPERIOR PARATHYROID AREA	6
LEFT SUPERIOR PARATHYROID AREA	4
RIGHT INFERIOR PARATHYROID AREA	10
LEFT INFERIOR PARATHYROID AREA	10
WITHIN THE THYROID GLAND	3
MEDIASTINUM	1

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803 Graydon Avenue
Norfolk, Virginia 23507

Diarrhea May Be Body's Defense Against Disease-Causing Bacteria

Diarrhea may be nature's way of speeding disease-causing bacteria through the intestinal tract before they can do much harm. Medicines that stop the diarrhea may also slow down the course of the germs through the body, allowing the offenders more time to make us sick. This is the finding of a research study reported in the December 24-31 issue of the *Journal of the American Medical Association.*

Acute infectious diarrhea is a problem to all populations regardless of standard of living, says the research report from the University of Maryland School of Medicine. Often physicians advocate the use of drugs such as paregoric or Lomotil to retard diarrhea. If the diarrhea is caused by an infectious bacteria, Lomotil probably should not be taken, say M.D.'s Herbert L. DuPont and Richard B. Hornick. Another medication, Oxabid, will control the diarrhea and at the same time permit the body's defense mechanisms to work against the infection, thus speeding cure.

The study was performed on 25 volunteers who were deliberately made ill with infectious diarrhea. The men who received Lomotil to control diarrhea persisted in running a fever much longer than those on Oxabid. This means that the offending bacteria had more time to invade the intestinal wall and thus cause illness throughout the body.

"With the widespread availability of potent pharmacologic agents we should exercise care not to administer a drug that might counteract normal body defenses. In the case of infectious diseases, cough, vomiting and diarrhea may represent protective mechanisms, and interference with them may not always be wide."

Clinical Evaluation of the Assay for Carcinoembryonic Antigen (CEA)

DIMITRI PAPACHRISTOU, M.D.
JOSE J. TERZ, M.D.
WALTER LAWRENCE, JR., M.D.
Richmond, Virginia

The carcinoembryonic antigen assay is a valuable test. Its chief value may be in evaluating patients treated for cancer rather than as a screening test in the symptom free population.

THE CARCINOEMBRYONIC ANTIGEN (CEA) was first reported in 1965 by Gold and Freedman[1] in extracts of human colonic adenocarcinomas, sera of patients harboring such neoplasms and in extracts of human embryonic intestine, liver and pancreas during the first two trimesters of intrauterine life. CEA is a tumor associated antigen consisting of a water soluble protein polysaccharide molecule located in the outermost layer of the cell membrane.

This antigen was identified utilizing a radioimmunoassay developed by Thompson and Associates.[2] Preliminary studies with this method by Gold[1] detected the presence of CEA in the sera of 97% of patients with colonic carcinoma. Later Moore, et al.[3] found, also, a high incidence of positivity in patients with carcinoma of the stomach and pancreas. In 1971 Hansen[4] modified the above method utilizing zirconyl phosphate gel to separate the antibody-bound CEA from the free CEA. With this method Lo Gerfo and others[5] found abnormal levels of CEA in a series of patients with lung cancer, breast cancer, and other cancers outside the gastrointestinal tract.

This paper was a winner of the Bigger-Lehman Award presented at the Annual Virginia Surgical Society Meeting, May 4th and 5th, 1973.

The present study was undertaken with the objective to determine the relationship of CEA to neoplasms of different sites of origin, its correlation with the stage of disease of these neoplasms, and its role as an index of response to treatment and the early detection of recurrence.

Clinical Material and Methods

Most patients referred to the Division of Surgical Oncology with either established or suspected neoplasms were entered into the study. A blood sample for CEA determination was drawn prior to any form of therapy and this assay was repeated at one and three weeks following surgery. In a small group of patients the CEA was again determined at intervals over a 15 month follow-up. The plasma was separated by centrifugation, frozen, and then assayed in Hansens' laboratory following his method.[9]

Results

One hundred and forty-nine patients with malignant tumors and 50 patients with benign disease had their blood assayed for CEA (Fig. 1). The values of CEA are reported in nanograms per milliliter and levels of 2.5 or more are considered as abnormal elevations. However, it has been shown by other investigators that a significane proportion of patients with a history of alcoholism, heavy smoking, or inflammatory disease of the bowel may have a CEA level slightly above 2.5. CEA levels by both the 2.5 ng/ml and 5.0 ng/ml criteria for

All CEA determinations were performed in the Cancer Research Laboratories of Hoffmann-La Roche, Nutley, New Jersey.

different cancers are shown in Table 1. As one of our objectives was to correlate the CEA titer with the site of origin of the neoplasm,

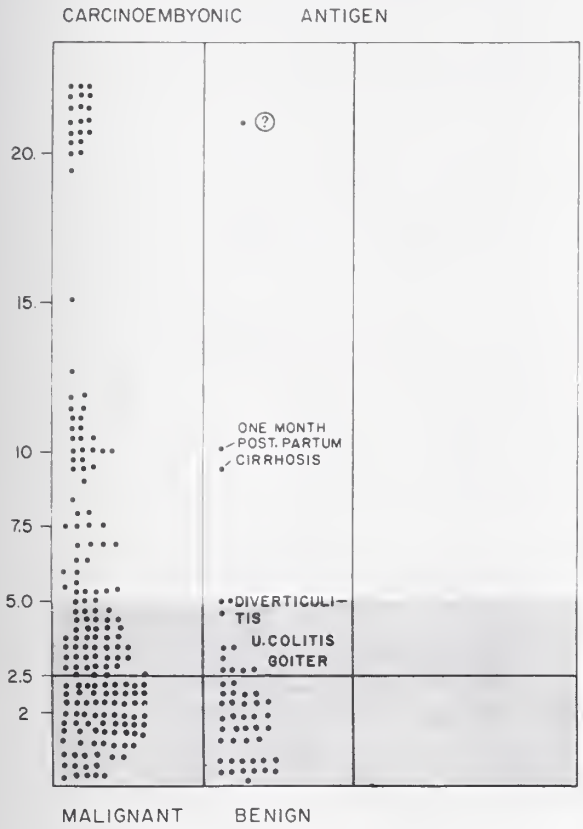

Fig. 1.

TABLE 1

CARCINOEMBRYONIC ANTIGEN

Malignant Tumors	# Cases	>2.5 ng/ml (%)	>5.0 ng/ml (%)
Stomach	14	91	71
Colon	45	68	47
Pancreas	10	80	70
Breast	31	74	32
Oropharynx	36	44	16
Other Sites	40	40	10
TOTAL	149	60%	37%

as well as with the extent of the disease and subsequent clinical course, the results obtained for each anatomical area are presented individually.

Colon and Rectum: (Figs. 2 and 3) The level of CEA was greater than 2.5 ng/ml in 68% of the patients studied with colo-rectal carcinoma. The incidence of positive CEA levels correlated reasonably well with the extent of the disease found at surgery, as well as with the clinical course of the patient during this brief follow-up period of 15 months.

Dukes' A: In only one patient out of the six classified as Dukes' A was the CEA level above 2.5. This 95 year old patient had a car-

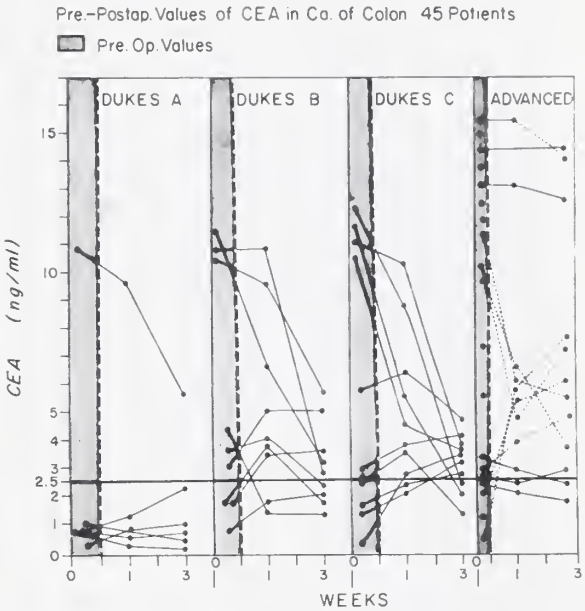

Fig. 2.

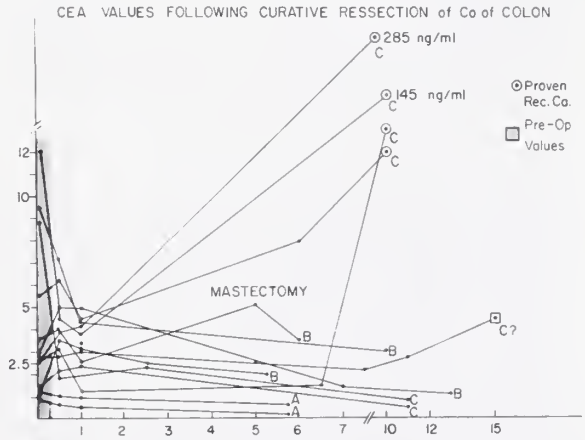

Fig. 3.

cinoma of the right colon, and the pre-op level was 46 ng/ml. Following right colectomy, the CEA level fell to 9.2 and 5.5 ng/ml at one and three post-up weeks. The patient expired one month later of cardiovascular complications. The remaining five patients with Dukes' A carcinoma have remained free of disease during the follow-up period. The assay for

CEA antigen has been in the normal range in two of these patients that have been evaluated at a later date.

Dukes' B: The pre-operative CEA level was normal in three of nine patients. All three have remained free of disease in the follow-up period. The CEA was tested at a later date in one of these three patients and was found again to be normal. In the six additional patients the CEA was above 2.5 ng/ml pre-operatively. In three the CEA returned to normal range (<2.5 ng/ml) following resection of the tumor. All three have remained free of disease during the follow-up period. In the other three patients the CEA levels have remained between 5.0 and 2.5 ng/ml following resection but no recurrence is yet apparent.

In one of the latter patients a pre-op value of 3.5 ng/ml fell to 2.5 following left colectomy for cancer. Five months later she was found to have a primary breast carcinoma and the CEA was 5.0 ng/ml immediately following radical mastectomy. The CEA values subsequently fell to 3.5 ng/ml. No clinical evidence of recurrence of either lesion has been found in this patient thus far.

Dukes' C: In three patients the pre-operative CEA was in normal range. All three have remained free of disease during the follow-up period. The CEA was determined at a later date in one patient and was again found to be normal. Of the other eight patients with elevated pre-operative levels of CEA, the values fell to normal in three patients. One of these three developed recurrent carcinoma and the CEA level was again elevated at this time. The other two patients have had normal CEA levels and have remained free of disease. The CEA levels in five patients with pre-operative elevations fell following surgery, but remained between 2.5 and 5.0 ng/ml. Four of these five patients have shown a progressive rise in the CEA level on long term follow-up and recurrent cancer has been proved in three patients. The fourth patient is still asymptomatic and there is no clinical or other laboratory evidence of recurrence thus far.

Colo-rectal carcinoma with extranodal disease: 84% of these patients had abnormally elevated levels of CEA prior to exploratory laparotomy. When a palliative resection of the primary tumor was performed the post-operative CEA fell somewhat but always remained above 2.5 ng. Further elevation of CEA became apparent as the disease progressed in each instance.

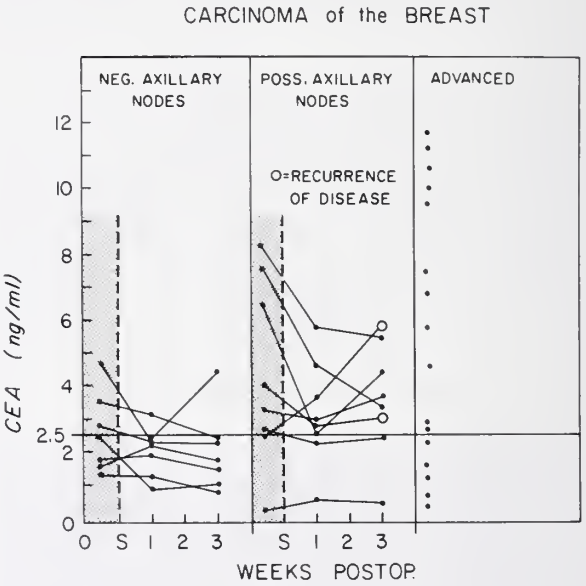

Fig. 4.

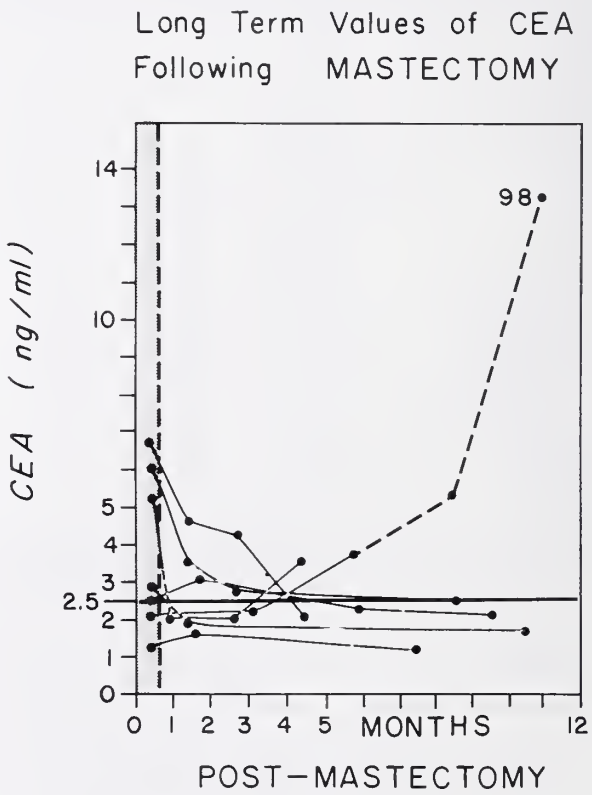

Fig. 5.

Carcinoma of the breast: (Figs. 4 and 5) Contrary to findings with colonic cancer, there was no major difference in the incidence of elevation of CEA found between the early and the more advanced breast cancers. The only difference noted in the different stages of disease was a significantly higher CEA titer in the patients with metastatic breast carcinoma compared to those with localized lesions and some correlation was also noted in terms of lymphatic spread. None of the patients with histologically negative axillary lymph nodes had a CEA level above 5.0 ng/ml but three out of seven patients with positive axillary nodes and seven out of twelve patients with metastatic disease had CEA levels above 5.0 ng/ml. In most of the patients with elevated pre-operative values, the CEA levels fell to normal range following mastectomy. In five patients subsequent CEA levels were determined during long term follow-up. In two of these patients there was a progressive rise in the CEA level. One developed a clinical recurrence and the other still remains free of disease. Four patients with metastatic breast cancer were subjected to adrenalectomy. Two were considered "responders" to this palliative treatment. The CEA fell in one and remained unchanged in the other. Of the two patients failing to respond to adrenalectomy, one had no change in the CEA level and the other showed a progessive elevation.

Carcinoma of the stomach: The CEA was abnormally elevated in 91% of 14 patients with carcinoma of the stomach. All those with elevated CEA had extensive metastatic disease at the time of exploration. The only patients with normal pre-operative CEA level had a radical subtotal gastrectomy for an extensive neoplasm. This patient expired three months later with an elevated CEA level and probable recurrent disease. No post-mortem was obtained.

Carcinoma of the pancreas: The CEA was above 2.5 ng/ml in eight out of ten patients in our study who had carcinoma of the pancreas. All of these eight patients were found to have metastatic carcinoma at exploration. Of the two with normal pre-operative CEA levels. one had undergone extensive radiation and chemotherapy for advanced pancreatic neoplasm prior to the time the test was performed. The other patient had a localized pancreatic neoplasm and underwent a pancreatoduodenectomy. The patient subsequently developed recurrent disease and expired one year later with an elevated CEA (11.5 ng/ml).

Epidermoid carcinoma of the oropharynx: Of the 36 patients tested, the CEA was positive in 44%, but in only 16% was the level above 5.0 ng/ml and the highest value was 7.5 ng/ml. Most of the patients with epidermoid carcinoma of the oropharynx have a history of alcoholism and smoking, two clinical features associated with mild elevation of CEA. It was not possible to correlate elevation of CEA with the extent of clinical disease in view of these low values noted.

Other neoplasms: (Fig. 6) The presence of

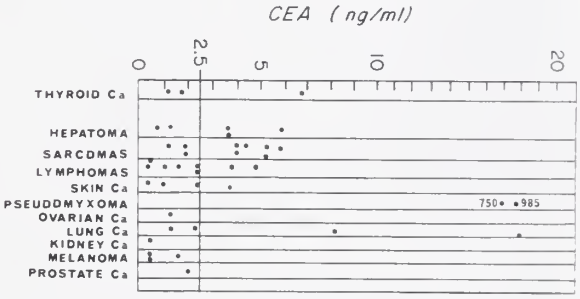

Fig. 6.

CEA was assessed in 39 patients with other malignant neoplasms. These include lymphomas, melanomas, soft tissue sarcomas, ovarian carcinomas, salivary gland tumors, pseudomyxoma peritonei and lung carcinoma. In 18 patients the CEA was positive but in only five patients was the level above 5.0 ng/ml. These were two cases of lung carcinoma, one salivary gland adenocarcinoma, and two patients with pseudomyxoma peritonei of ovarian (one case) and probable appendiceal origin (one case). One of these patients had a pre-operative CEA value of 750 ng/ml, the highest value noted in this series. The bulk of the tumor and peritoneal mucin was removed and the CEA level fell to 20 ng/ml. The CEA rose again to pre-operative levels as the tumor became clinically evident over a three month period.

Benign conditions: In all 27 benign breast tumor patients the CEA was within normal limits. Of the remaining 23 patients with non-malignant disease the CEA was positive in 12 patients, but in only two patients was the level above 5.0 ng/ml. One of these two patients had alcoholic cirrhosis (9.0 ng/ml) and the other patient had lymphogranuloma venenum (20 ng/ml). This patient was 67 years old and died of the complications of a para-colostomy abscess. No autopsy was obtained. The other ten patients with values between 2.5 and 5.0 ng/ml had peptic ulcer with a history of alcoholism, diverticulitis, ulcerative colitis, and alcoholic cirrhosis.

Discussion

Our study confirms the association of elevated plasma levels of CEA with neoplastic disease. In Gold's original studies the CEA was associated primarily with colorectal cancer. The wider variety of neoplasms found to have an elevated CEA when assayed with Hansen's method seems to indicate that an antigen is being assayed that is not limited to neoplasms of entodermal origin. It may also be assumed that the antigens detected by these two different methods may differ biochemically as well as immunologically. This concept has prompted Lo Gerfo[6] to refer to this antigen "tumor associated antigen" (TAA). Despite technical differences, both methods for CEA have a similar incidence of positivity when patients with gastrointestinal neoplasms are assayed.[6-7] The practical advantage of the Hansen assay is that a large population of potential cancer patients can be considered possible beneficiaries of the CEA determination.[9-8] As we try to project the value of these assays in a clinical setting several questions must be postulated.

What is the CEA titer in healthy individuals? This is a significant question if we are to consider this test as a screening or initial diagnostic tool in cancer. Lo Gerfo found that all 49 "normal" individuals considered as controls had normal CEA values.[5] Similar findings were reported by Zamchek in 40 apparently normal persons.[10] H. Reynoso[11] tested the plasma in 357 healthy blood donors and found five individuals with elevated CEA values. Four of these five donors had repeat determinations that were normal and only one had a persistent elevation (11 ng/ml). This individual has remained healthy and a thorough work-up has failed thus far to demonstrate any evidence of a neoplasm. Gold has reported that 40 out of 70 patients without evidence of cancer at the time of an initial positive assay with his technique, have eventually developed clinical cancer.[10]

Do benign neoplasms or other disease processes produce elevation of CEA? Although the number studied is small, none of our patients with benign neoplasms had elevated CEA.

Our number of patients with inflammatory disease of the gastrointestinal tract and liver disease is too small to draw any significant conclusions; however, the incidence and magnitude of the elevations tend to fall within the range reported by others for similar diseases. Moore [13] found that 40 out of 88 patients with severe alcoholic cirrhosis had a positive CEA assay, but none of the 14 patients with non-alcoholic cirrhosis had abnormal CEA titers. The range for alcoholic cirrhosis in his series was between 2.5 and 10.0 ng/ml and all patients with elevations had clinical evidence of advanced liver disease (hepatic encephalopathy, gross ascites, hepatomegaly and spider angiomata) so the differentiation from carcinoma was not difficult. It is postulated by these same authors that the elevated CEA in the sera of these patients may be due to the fact that: (1) the damaged liver is less efficient in removing a glycoprotein with CEA activity produced outside the liver so that this glycoprotein accumulates in the serum, or (2) that the liver, damaged by alcoholism, synthesizes abnormal glycoprotein with CEA activity, perhaps as part of its reparative growth. A similar range of elevation of CEA was observed by Lo Gerfo[5] in patients with ulcerative colitis and regional ileitis.

Although an elevated CEA titer within the range of 2.5 or 10 ng/ml in patients with severe alcoholic cirrhosis or inflammatory dis-

ease of the gastrointestinal tract may be explained by the underlying pathology, the physician is still obligated to pursue an aggressive work-up to rule out a coexisting neoplasm. This is particularly so in patients with ulcerative colitis where the association with carcinoma is well known. An initially elevated or rising CEA might even be considered an indication for colectomy. The history of heavy smoking also seems to be important as it has shown that individuals with such a background tend to have elevated CEA in the 2.5 to 7.5 ng/ml range.[11] However, long term follow-up will be necessary to fully assess the significance of these low range elevations of the CEA in patients with non-neoplastic disease.

Is CEA really useful for the early dectection of cancer? This would be of prime importance in any cancer detection program. In analyzing our data, as well as that of other authors, from patients with established cancer, it does not appear that small "early" neoplasms are frequently associated with an eleveated CEA titer. We have also found that there is a close relationship between the gross extent of the disease and the CEA level as well as the probability of finding abnormal CEA with a number of different cancers. This was particularly so with gastric, pancreatic, and colorectal cancer. In breast cancer this correlation was less striking in that 64% of the clinically "curable" breast cancers had an elevated CEA while only 68% of those with advanced breast cancer had a positive CEA. All of these data support the idea that this assay may be of diagnostic value for cancer but it's potential use as a screening test for the asymptomatic patient population may be limited.

Is the CEA assay useful in follow-up evaluation of patients after treatment for cancer? Although these data are preliminary, the serial evaluation of CEA in patients undergoing treatment reveals interesting and particularly useful findings. Resection of the cancer is usually followed by a progressive fall in CEA titer if there is an elevated level prior to operation. Those patients whose CEA level did not return to normal range, or did so and subsequently became elevated, have generally developed clinical evidence of recurrent or metastatic disease. These findings are striking during a relatively short follow-up period for this group of colon cancer and breast cancer patients. Although it is too early to draw firm conclusions, it is quite possible that the CEA will be a means of early detection of residual cancer and, thereby, allow earlier and more effective treatment. The serial evaluation of CEA may prove to be a useful guide to the response of patients to palliative treatment as well. These findings suggest that the major value of the CEA assay may be in the follow-up of treated cancer patients rather than in the field of cancer detection.

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(continued on page 120)

Adrenalectomy for Metastatic Carcinoma of the Breast

Experience in a Community Hospital

GERALD J. BECHAMPS, M.D.
JONATHAN A. VAN HEERDEN, M.B.
Winchester, Virginia

The place of adrenalectomy in the treatment of metastatic carcinoma of the breast is discussed and a series of 16 patients is reviewed. A good response is obtained in a majority of patients, some of whom have been stable with their disease greater than four years.

THE UNFORTUNATE PATIENT with carcinoma of the breast, be it early and "curable" or late and disseminated, finds herself in the midst of considerable therapeutic controversy regarding almost every facet of this disease. Should she have had an annual "screening" mammogram? Should she have a "lumpectomy", a radical, supra-radical, or a modified radical mastectomy? What about the opposite breast? When should she have her ovaries removed? When should she have hormones—be they male or female in kind? Should she have radiotherapy? When to use chemotherapy and what kind? Lastly, when should she have an adrenalectomy? Or should it be a hypophysectomy?

Slowly but surely some order is being created out of this chaos. The physician dealing with the breast carcinoma patient today has an amazing therapeutic armamentarium at his disposal which should be wisely used.

The interest that we today have in the patient with metastatic carcinoma of the breast was initiated at the turn of the century by Beatson[1] who first reported favorable responses of metastatic breast carcinoma to oophorectomy. This initial report drew attention to the fact that certain carcinomas of the breast were indeed dependent on the hormonal "mileau interior" of the body and that manipulation of this led to favorable responses in some cases. With the clinical availability of Cortisone in the 1950's, it was possible to consider adrenalectomy for advanced breast carcinoma.

We have been deeply interested in this problem and in an attempt to clarify our own thoughts, elected to review the experience with adrenalectomy for metastatic carcinoma of the breast at the Winchester Memorial Hospital.

Clinical Material

Sixteen patients have had bilateral adrenalectomy for metastatic breast carcinoma at the Winchester Memorial Hospital by several surgeons, including the authors.* To analyze this small group more closely, we have divided the patients into three categories of response—good to excellent, fair, and poor or none. (Table 1) We have defined a good to excellent response as one in which the patient had regression or ablation of metastatic tumor areas or symptoms (pain) and remained stable for six months or more. We have ten patients, or better than 60 percent of our series, in the good to excellent category. One patient had a fair response and five had a poor or no response.

The average age of the three categories was 53.5 years, 70, and 53 years respectively. The

Dr. Bechamps *is presently at the Mayo Clinic, Rochester, Minnesota.*

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*We are indebted to Drs. Edmund Horgan, Monford D. Custer, Jr., and Hunter M. Gaunt, Jr. for inclusion of their patients in this series.

initial diagnosis was scirrhous adenocarcinoma —Grade III or IV in all but one patient. This patient had a Grade III papillary carcinoma. As one would expect, the initial surgical treatment varied according to the individual surgeon's preference and the presenting clinical picture.

mastectomy. The patient who had a fair response to adrenalectomy had only an axillary node biopsy to establish tissue diagnosis since she already had metastatic disease at the time of initial diagnosis.

As the patients developed their metastases and came to adrenalectomy, certain facts predominate in looking at the individual groups (Table 2). In the good to excellent responders, all but one had either predominately skeletal or chest wall skin metastases. In one good

TABLE 1

ADRENALECTOMIES

	Response		
	Good to excellent	Fair	Poor or none
Total patients	10	1	5
Average age, years	53.5	70	53
Initial diagnosis			
Adenocarcinoma	9	1	4
Papillary	1		
Ductal			1
Initial treatment			
Radical	3		2
With RoRx	6		2
Simple	1		
With RoRx			1
Node biopsy		1	

In the first group, three patients had a classical mastectomy and an additional six patients had a radical mastectomy plus postoperative radiation therapy. One patient had a simple

TABLE 2

ADRENALECTOMIES

	Good to excellent	Fair	Poor or none
Interval (mastectomy to adrenalectomy), mo	32, 48, 36, 72, 36 192, 19, 108, 6, 58	4	43, 14, 10, 14, 7
Mortality	0	0	1
Morbidity	0	0	2 (pleural effusions; PAT)
Predominant metastasis	Skeletal (7) Chest wall, pleura, adrenals (1) Chest wall, skin (2)	Skeletal (1)	Chest wall, skin (1) Choroid, liver, lung, pleura (1) Chest wall, lung (1) Lung, liver, adrenal (1) Pericardial, pleural, and lung (1)

responder, there was a significant malignant pleural effusion which responded dramatically to adrenalectomy (Figs. 1 & 2). In the nonresponders, four of the five had pulmonary or pleural involvement. Moreover, the interval between mastectomy and adrenalectomy is much greater in the good responders as compared to the nonresponders (60.7 months average versus 17.6 months).

Significant morbidity occurred in only two of the sixteen adrenalectomized patients. One patient developed recurrent pleural effusions in the hospital requiring repeated thoracentesis and another patient had significant episodes of paroxysmal atrial tachycardia requiring intensive, vigorous therapy by the cardiologist. Our 30-day hospital mortality is 6 percent, having lost only one patient who happened to be in the nonresponding group.

Many of our patients had oophorectomy in conjunction with the adrenalectomy and one of the patients had a prophylactic oophorectomy in conjunction with her mastectomy. (Table 3) Of the six who had prior oophorectomy, five had a good response, i.e., regression of their symptoms or metastases. Two nonresponders did not have an oophorectomy.

Figs. 1 & 2. Chest x-ray pre- and postadrenalectomy for malignant pleural effusion without intervening thoracentesis.

Our overall response to adrenalectomy has been gratifying. Fully aware that this is a palliative procedure, we have been fortunate in obtaining a fair to good response in eleven of our patients and a sustained response an average of 22.8 months. (Table 4) All nonresponders are deceased, most within twelve weeks. Of the good responders, half of the patients are stable with their metastases, three are deceased, and one was lost to follow-up. One patient died of acute adrenal insufficiency dur-

TABLE 3

ANALYSIS OF RESPONSE
Results of Oophorectomy

Good to excellent	Fair	Poor or none
With mastectomy (1)	With adrenalectomy (1)	Good response (1)
With adrenalectomy (5)		With adrenalectomy (1)
Good response (4)		No response (1)
		No oophorectomy (2)

ing a febrile illness. At postmortem examination, she was found to have a splenic metastases. The remaining patients who have had recurrence of their tumor are presently being treated with chemotherapy or localized radiation therapy, according to the site of their metastases.

In patients with recurrent local disease, their disease is usually relatively stable and confined to the mastectomy site or regional nodes. These patients are best treated with localized radiation treatment and/or systemic hormonal therapy. If both of these fail, chemotherapy has had some beneficial effect.

TABLE 4

ANALYSIS OF RESPONSE

Good to excellent	
Skin recurrence, 24 mo	Pleural recurrence, 24 mo†
Skin recurrence, 15 mo	Skin, liver, skeletal, 7 mo†
Stable bone, 18 mo	Stable, 52 mo
Stable bone, 12 mo*	Stable, 51 mo
Stable skin, 8 mo	Acute adrenal insufficiency, 17 mo†
Fair	
Further bone, 10 mo	
Poor or none	
Deceased—8 wk; 2 wk; 12 wk; 12 wk; 2 yr	

*Lost to follow-up.
†Deceased.

The one fair responder initially had some palliation and then developed further progression of her disease in the form of a metastases to the base of her tongue, a rare but not unheard of location.

Discussion

The treatment of metastatic breast carcinoma is complex and controversial. As physicians we must continually be aware that we will not cure these patients. On the other hand, we can provide significant palliation and some prolonged survival. Treatment of advanced mammary cancer must be individualized and there is no absolute therapeutic regimen to follow. For purposes of treatment, patients with advanced disease can be arbitrarily divided into four groups:

1. Recurrent local disease
2. Inoperable primary disease
3. Preterminal metastases
4. Symptomatic metastases

Patients with inoperable disease at the time of initial diagnosis, e.g., large ulcerating carcinomas or fixed axillary nodes, are best treated with hormonal therapy and/or radiotherapy. Some clinicians prefer, initially, hormonal therapy to establish tumor response. Radiotherapy is thus kept in reserve. Surgery at this time should be minimal and directed towards removal of ulcerating and often times infected malignant ulceration.

Those with terminal metastases are not candidates for any major ablative endocrine surgery. Treatment should be based on expected length of survival and palliative relief of pain.

The fourth group are those patients who are functioning socially but who have active, symptomatic, and progressive disease. It is usually this group for which major endocrine ablative surgery is reserved. By the latter, we mean adrenalectomy or hypophysectomy. Because of local conditions, we have preferred adrenalectomy but studies of the Joint Com-

mittee on Endocrine Ablative Procedures in Disseminated Mammary Carcinomas have shown no statistical difference in the response of hypophysectomy from those of adrenalectomy.[2] Most of these patients, prior to adrenalectomy, have had previous simple endocrine therapy, i.e., estrogens, androgens, steroids, or ovarian ablation.

We have preferred to follow a general pattern in selecting patients for major ablation. In the premenopausal woman, we proceed with surgical castration to determine the response in symptomatic metastases. If there seems to be a satisfactory response, we then proceed to adrenalectomy. If recurrence develops, we then follow this with chemotherapy. In those who do not respond, we prefer to try androgens followed by steroids and/or chemotherapy. In the post-menopausal woman, we prefer to initially start with estrogens in the form of Stilbesterol, 15 mg. daily, to determine response. If these patients seem to obtain a response, we will then proceed with adrenalectomy to treat further recurrences. If this fails, we would then resort to chemotherapy. If there is no response, androgens are the preferred therapy followed by chemotherapy if there is no response. However, since the 1971 report by Horsley, et al.,[3] which showed a significant increase in response rate in those patients in whom 5-FU was given postoperatively, we have begun to use 5-FU both with oophorectomy and adrenalectomy.

The site of metastases (Table 5) should not be the primary criteria for selection for adrenalectomy for remissions have occurred in any situation or site. However, the Joint Committee report found that skeletal and subcutaneous regressions were more common than visceral remissions. All but one of our responders in our series had predominantly skeletal or subcutaneous metastases. Four of our five nonresponders had extensive visceral metastases.

Mye and Neal[4] found no patient under the age of 40 who responded to adrenalectomy and the best response was in the 50 to 59-year age bracket (56 percent responders). Our findings are similar with an average age of 53.5 years in the good to excellent responders. Our youngest patient was 43 years old. Most authors would agree that the menstrual status is most important for planning treatment. In general, premenopausal women and those five years postmenopausal should have castration as initial treatment for metastases and those truly postmenopausal should have estrogen therapy.

TABLE 5

MAJOR ENDOCRINE ABLATIVE SURGERY

Clinical Criteria for Selection

Stage of disease

Site of metastases

Age and menstrual status

Previous oophorectomy or hormonal therapy

Free interval

Laboratory selection

Thirty percent of premenopausal women with metastatic breast carcinoma will respond to oophorectomy and MacDonald stated that 45 percent of patients who did respond, also had a response to adrenalectomy or hypophysectomy whereas only 11 percent of the nonresponders to oophorectomy responded to major ablation. Our series is not large enough to have significant findings in this regard, but four of those who had a good response to adrenalectomy had had a prior sequential oophorectomy. Six of our patients had oophorectomy in conjunction with adrenalectomy. Prophylactic castration at time of mastectomy probably does not increase the longevity nor does it increase the incidence of later recurrences and metastases, although Horsley[3] reported a greater percentage of patients with prophylac-

tic oophorectomy having free intervals greater than two years.

Response to previous hormonal therapy, whether it be estrogens, androgens, or steroids, is difficult to ascertain since there are no good control studies. Dao and Nemato[5] recommend adrenalectomy as primary therapy in patients with visceral metastases since, in their experience, neither the response or the lack of response to previous hormone therapy was a reliable indication.

The free interval is usually defined as the period of time between the mastectomy and the appearance of clinical metastases. It is well established that the longer the free interval, the better the response to subsequent ablative therapy. The theoretical explanation is obscure but, practically speaking, it is one of the most useful criteria in the selection of patients. Fairgrieve[6] stated that the interval between the first appearance of the lump (rather than the mastectomy) and subsequent metastases was more significant. He reported an average free interval of 47.5 months in those patients who later responded to adrenalectomy as compared with 22.1 months in those who did not respond. The slower growing tumors seem more favorable to response. Similar trends are apparent in our series with an average of 60.7 months in the responders versus 17.6 months in the nonresponders. There does not appear to be any correlation between the histologic type of tumor and the later response to endocrine therapy.

Laboratory methods seem to offer some promise to select more objectively those patients who will respond. Certain mammary cancers are hormone responsive. Bulbrook[7] applied a discriminant function by measuring urinary excretion of etiocholanolone and 17-OH corticosteroids. Those with negative function had an 85 percent failure rate and those with positive function had a 93 percent response rate. It seems definite that there are hormonal variations and measurable metabolic changes related to breast carcinoma between cancer patients and normal women.

Jensen, of the University of Chicago, has observed that about one in four breast cancers appear to require hormones for growth and that an estrogen receptor protein is present in malignant cells. Of 50 patients tested by his ultracentrifuge method, only one of 33 who lacked the receptor protein was benefited by ablation whereas remission occurred in 13 of 17 patients whose cancers contained the receptor proteins. Patients are subjected to adrenalectomy only if they have a demonstrable receptor protein at the University of Chicago.

Skeletal scintigrams using bone-seeking radioactive isotope and the gamma camera have made full axial skeletal survey rapid, practical, and more accurate than conventional radiologic bone survey. The routine use of skeletal scintigraphy has demonstrated occult foci in 25 percent of all women with apparent early disease. This poses a problem in how to treat these people—should they be treated conventionally for primary disease or as advanced metastatic carcinoma? No data is available to date but controlled clinical trials are needed. The ultracentrifuge method is not available commercially and we are just beginning to use skeletal scintigrams in our community hospital. None had been used in this series.

Operative Management

Most of the surgeons in our series employed the anterior abdominal approach for adrenalectomy. The main advantages are detecting unsuspected visceral metastases, combined oophorectomy, and discovering and treating unrelated diseases. Operative mortality for the anterior approach is reported at 3 to 10 percent and morbidity is mainly from subphrenic abscesses, pulmonary embolus, atelectasis, and adrenal insufficiency. In our series, mortality was 6.2 percent and morbidity was minimal. The bilateral posterior approach has been shown to have a lower mortality and morbidity. We have used this in selective cases.

Postoperatively our patients are maintained on 25-37.5 mg. of Cortisone daily and for mineralocorticoid replacement we use Florinef, 0-0.1 mg. daily, carefully monitoring the sodium and potassium until the patient is

stable. Most of our patients left the hospital within seven to ten days.

Summary

We have reviewed a series of adrenalectomies for metastatic breast carcinoma in our community hospital. Although our series is small, we have been fortunate to have a good response similar to those reported from larger institutions. Our mortality and morbidity have been quite acceptable and we have found a prolonged free interval from mastectomy to adrenalectomy as the most useful criteria and prior response to oophorectomy as well as skeletal and subcutaneous metastases as important additional criteria for selection for major ablative surgery. We have had good to excellent response in the majority of our patients, some of whom have been stable with their disease greater than four years. We hope that with the availability of more objective laboratory measurement, we will be able to better select patients for this type of treatment. There seems to be a varying ability to palliate advanced breast carcinoma and it demands selective, individualized treatment.

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P. O. Box 554
Winchester, Virginia 22601

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Division of Surgical Oncology
Medical College of Virginia
Richmond, Virginia 23298

Mobile Prehospital Coronary Care in Waynesboro, Virginia

THOMAS L. GORSUCH, M.D.
CATHERINE NICHOLS, R.N.
EVELYN DRIVER, R.N.
E. JERRY BEARD
Waynesboro, Virginia

A method of extending in-hospital care to the community at large is described. This system overcomes the financial and medico-legal barriers which have restricted the development of mobile CCUs in many areas.

THE EFFECTIVENESS of prehospital mobile coronary care in reducing mortality from acute myocardial infarction in hospitalized patients has been amply demonstrated. Pantridge in Belfast, Ireland,[1] Grace in New York,[2] Warren in Columbus, Ohio,[3] Crampton in Charlottesville, Virginia,[4] and others have reported mortality rates in the range of 6.5 to 13% when mobile coronary care units were available to bring patients to the hospital. All of these systems of prehospital coronary care, however, require the use of physicians and/or especially trained and certified emergency medical technicians and frequently require large expenditures for radio telemetry and other expensive equipment, requirements which may be beyond the reach of many communities. In Waynesboro, Virginia, a system of prehospital mobile coronary care has been developed which utilizes the nurses of the hospital coronary care unit (CCU) and the regular members of the local rescue squad and requires no equipment not already in use except a portable drug box. The system has been in operation for more than fifteen months; the mortality rate of the patients with acute myocardial infarction and coronary thrombosis who received care from the mobile unit has been 12%; it was approximately 30% prior to the use of inhospital CCU care, and 20% even after the routine utilization of this facility. We believe this system is readily adaptable to many small communities in Virginia and elsewhere, and describe it herein.

Waynesboro is a city of approximately 20,000 inhabitants. It has a 165-bed general acute care hospital which has no full time staff or emergency room physician. Approximately 30 physicians practice in the community or in local industries. The local forty-man Rescue Squad is well trained and has regular on-going courses in cardiopulmonary resuscitation (CPR) and other aspects of rescue work, but there are no members especially trained or certified in cardiopulmonary resuscitation.*

In 1966, the Waynesboro Community Hospital established a two-bed CCU, later expanded to three beds. All monitoring equipment was donated by patients or volunteer

GORSUCH, THOMAS L., M.D., *Director, CCU. Waynesboro Community Hospital.*
NICHOLS, CATHERINE, R.N., *Head Nurse, CCU. Waynesboro Community Hospital.*
DRIVER, EVELYN, R.N., *Staff Nurse, CCU. Waynesboro Community Hospital.*
BEARD, E. JERRY, *Captain. First Aid Crew.*

*In 1972, the General Assembly of Virginia passed an amendment to the Code of Virginia, the so-called Good Samaritan Act, which exempts from liability, when performing cardiopulmonary resuscitation, those emergency medical care technicians or attendants who have successfully completed an approved course in CPR. To date, the only such approved course in Virginia is that sponsored by the General Hospital of Virginia Beach and the Virginia Beach Rescue Squad.

organizations. A group of nurses working in the hospital (RNs and LPNs) was selected for inhospital training in CCU work and quickly became very proficient. Once proficiency and competence in this special field was demonstrated, they were given a letter from the CCU committee, stating that they could perform the duties of a CCU attendant *as specified* by the medical staff. The medical staff then *specified the independent actions* that these attendants could undertake in providing care for patients in the CCU. These *independent actions* are as follows:

1. Use nasal O_2 as needed for dyspnea or chest pain.
2. Start and maintain a slow intravenous drip of 5% dextrose in water using a 20-gauge plastic indwelling catheter.
3. Give lidocaine 50-75 mg. as needed for ventricular extrasystoles if occurring more than 5 times per minute, in bursts or runs of two or more, or arising from multiple foci.
4. Give atropine 0.6 mg. intravenously for bradycardia of 50 beats per minute or less, if associated with hypotension, ventricular irritability, or other evidence of cardiovascular insufficiency.
5. Defibrillate with 400-watt second countershock if ventricular fibrillation occurs.
6. Give sodium bicarbonate 44-88 milliequivalents intravenously after resuscitation.

These attendants quickly became extremely competent in judging the need for these measures and have many uneventful successful conversions of ventricular fibrillation to their credit; we believe that *routine nurse-decided* prophylaxis has also reduced the incidence of serious cardiac arrhythmias. No valuable time has been wasted trying to contact the patient's physician or the director of the CCU for orders in emergency situations covered by this protocol.

In 1970, after the CCU routine had been well established, it was decided to extend *routine* CCU care to the emergency room of the hospital. We, like all hospitals, had had a number of deaths in the emergency room, or in transit to the CCU, from ventricular fibrillation which could not be converted despite the use of standard "Code 4" CPR procedures. The hospital therefore purchased a Physio-Control Life-Pak 33 portable battery powered monitor-defibrillator equipped with electrocardiographic electrodes in the chest paddles as well as separate monitoring electrodes for permanent use in the emergency room. A room in the emergency area was equipped with a cart containing needed cardiac drugs. The nursing staff of the emergency room was also given intensive training in detection and treatment of ventricular fibrillation and in CPR. Our routine since 1970 has been as follows:

When a patient presents to the emergency room with chest pain, he is placed in the "cardiac room" and the CCU nurse is immediately called to attend. She goes to the emergency room, attaches monitoring electrodes to the patient, starts an intravenous drip and follows the identical protocol of independent action that she follows in the CCU, to which has been added the *independent option* of giving meperidine (Demerol) 50 mg. or morphine sulfate 10 mg. for severe pain. As time has gone on, the additional option of giving intermittent positive pressure breathing if pulmonary edema is present has been added. When a decision has been made by the attending physician to transfer the patient to the CCU, the nurse does so, with intravenous fluids and monitor still attached. Prior to the institution of any of these procedures, the hospital medical staff officially approved the protocol of action for the CCU nurse and other involved attendants for use in the emergency room. With these procedures, essentially all the benefits of the CCU are *routinely* available to the patient within a few minutes of arrival at the hospital. At least five episodes of ventricular fibrillation have been successfully and uneventfully resuscitated in the emergency room or in transit, and only one death from primary ventricular fibrillation has occurred in this phase of hospital care since the routine was started. This death occurred because the attending physician believed the patient to be suffering from

non-cardiac chest pain and allowed the routine to be relaxed.

During the time the CCU nurse is away from her regular post, a ward nurse, who is stationed immediately adjacent to the CCU, or a supervisor, both also especially trained, "mind the shop". In actuality, the ward and CCU nurses rotate so that there is almost equal competence. All ward nurses and supervisors have letters certifying their competence and authorizing them to perform emergency independent action for CCU patients, limited to defibrillation and the use of lidocaine.

In early 1972 it was decided to extend these inhospital routines to the community at large, and a mobile CCU (MCCU) was devised. A three-fold approach was used. First, the use of CPR by lay persons was emphasized through many talks and demonstrations throughout the city by physicians, nurses and Rescue Squad personnel. The value of a mobile CCU is markedly enhanced by adequate CPR at the scene of an arrest. Second, a program to educate the community about the symptoms of heart attack and the need for prompt medical attention was undertaken through the local newspaper, radio stations, and various other community forums. Surprisingly, this did not result in an influx of pseudo-coronary disease. Finally, the Rescue Squad and hospital staff developed the mechanics of the system.

The Rescue Squad had available a Swab ambulance with a ten-foot body which has adequate interior height and space for mobile CCU functions. A portable suction apparatus and an intravenous pole which could be attached to the stretcher were the only new pieces of equipment purchased by the squad. Crew members increased their knowledge of CPR with additional courses. They assigned two men to stay at the station at all times, so that vehicles could be instantly activated. A "hotline" was connected to the CCU from Rescue Squad headquarters so that the CCU nurse could immediately be made part of any call and decide whether the mobile apparatus should be set in motion. The hospital purchased a portable drug box which is regularly stocked with the same equipment and supplies used in the CCU. The medical staff then approved a *third set of routine orders* for the CCU nurse to follow at her discretion when acting as an agent of the hospital and as a part of the mobile CCU program. These orders are identical to those in use in the hospital CCU and emergency room with the additional use of metaraminol bitartrate (Aramine), 0.75 mg. given subcutaneously for systolic blood pressure of less than 90. The hospital board of trustees, the hospital counsel and the hospital insurance carrier also approved these orders and the routine to be described.

When a call is initiated at Rescue Squad headquarters, the CCU nurse is "plugged in" via the special telephone hot-line. She attempts to determine the likelihood of cardiac or acute coronary disease. Initially we planned a list of high risk victims and a list of questions to be asked of the caller. In practice, however, the large number of "new" patients in our cardiac population and the difficulty of obtaining useful information from often hysterical relatives or bystanders has made us forego potentially restricting routines. The call is usually answered or "run" by the MCCU if acute chest pain, dyspnea, with or without pain, sudden loss of consciousness, etc. are the presenting symptoms. Despite these lax criteria, only 45% of our runs have involved non-cardiac problems, a figure very similar to that observed in other larger units.[2,3,4]

Once the decision to make the "run" has been made, the Rescue Squad ambulance and two men are dispatched to the scene. On arrival, the victim is placed on the stretcher, or at least moved to an area where space will allow the nurse to perform her duties. CPR, if necessary, is started by crew members. Simultaneous with the departure of the first vehicle, a squad car is dispatched to the hospital emergency room to pick up the nurse, the drug box, and the portable monitor-defibrillator. The back-up system of personnel in the CCU and of equipment and personnel in the emergency room is put into play to cover the hospital while she is on the call. This second

vehicle goes to the scene, usually arriving three to five minutes after the first vehicle.*

In areas where only one vehicle is available, this vehicle could easily go to the hospital, pick up the nurse and her equipment, and proceed to the scene. On arrival, the nurse assesses the cardiac rhythm of the patient with the paddle electrodes, and, if stable, attaches permanent electrodes to the patient, starts an intravenous drip and gives the necessary medications, *at her own discretion*, and *functions exactly as she would in the hospital CCU.* Once all is ready, a slow trip to the hospital is started. There, the patient is held in the emergency room cardiac area for physician attendance or transferred directly to the CCU, as the nurse sees fit, in either case, under constant monitoring and drug prophylaxis and therapy. No contact with a physician is required during this entire procedure since the nurse is following a prescribed *routine of orders established previously by the medical staff.*

Since August 31, 1973, we have made 198 mobile calls or "runs". Eighty-nine (45%) involved non-cardiac problems, and the patients were either released or admitted to general care. Five refused aid. One hundred and nine were thought to have acute cardiac illnesses. Twelve were dead on arrival of the unit and resuscitation was either not attempted or unsuccessful. Thirty-one did not require or receive drug therapy, and, while thought to have acute cardiac disease, did not have conclusive evidence of acute coronary artery thrombosis or myocardial infarction throughout their stay in the CCU. The remaining 66 had evidence of acute coronary disease and required and received treatment. Of these, eight died, all because of profound cardiogenic shock and pacemaker failure. Three deaths occurred in the mobile unit or emergency room and five after arrival in the CCU. There have been three out-of-hospital resuscitations by the mobile CCU with two survivors. In two of these cases, adequate CPR had been provided by bystanders, emphasizing again the need for community education; the other patient was given CPR by the Rescue Squad members arriving on the scene in the first vehicle.

The MCCU averaged one run every 2.3 days; the vast majority of calls took less than 30 minutes. The hours of 4:00 p.m. to 12 midnight were busiest by a slight margin over the 8:00 a.m. to 4:00 p.m. hours. Saturday was by far the busiest day of the week, with Sunday a close second and little difference among the other days.

We believe our system has major advantages over other mobile coronary care programs for use in small or medium sized cities or towns with one hospital, one Rescue Squad, and a relatively well delineated service area. It is quick and reliable; there is no waiting to track down a physician who may not be readily available. It puts the most skilled and experienced person available at the scene; decisions made there are similar to those made daily in the hospital, and treatment is identical to that given in the hospital. It involves essentially no new hospital or community expense since all the personnel and equipment are in daily use in the hospital and community. We have been advised that since the nurses act as agents of the hospital, *following routine hospital staff orders at all times*, there is no legal risk to the personnel or institutions involved. Nurses have been deployed in other prehospital emergency cardiac care systems.[5,6] The development of adequate backup personnel among other hospital staff members has prevented any deficiency of care to regular CCU patients while the nurse is out of the unit. There has been uniform approval and cooperation from all involved personnel, local physicians and city agencies.

Summary

A method of extending in-hospital coronary care to the community at large has been described. The focal point of the system is the CCU nurse who follows a formal set of medical staff orders allowing her the discretionary functions of preventing and treating cardiac rhythm disturbances and providing standard

*One successful resuscitation occurred when the first arriving squad men were able to perform CPR and maintain the patient while the nurse, drugs, and equipment were held up at a railroad crossing. Had only one vehicle been used, this would not have been possible.

coronary care in the emergency room of the hospital and in or from a Rescue Squad vehicle outside of the hospital. We believe that our system overcomes the financial and medico-legal barriers which have restricted the development of mobile CCUs in many areas.

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P. O. Drawer 400
Waynesboro, Virginia 22980

Exonerated as Cause of Birth Defects

Medicine and the general public long have thought that expectant mothers who contract measles, mumps, chickenpox and certain other virus diseases run a high risk of giving birth to malformed infants. Now, a study reported in the December 24-31 issue of the *Journal of the American Medical Association* reports that this may not be true.

In a study of some 400 expectant mothers in New York City who contracted one of the infectious diseases, the researchers found that cases of malformed infants were no more common than among a control group of mothers who were not sick during pregnancy. "There was no apparent difference in the incidence of congenital defects among virus-affected and control subjects. Their total rates were 2.2 per cent and 2.3 per cent, respectively," reports Morris Siegel, M.D., of the Downstate Medical Center, Brooklyn, N. Y.

The most common defects found in the infants involved the central nervous system, causing mental retardation and various physical malformations of the child. Deafness also sometimes occurred.

Certain harmful effects, however, were observed. Hepatitis in the latter half of pregnancy resulted in an increase in prematurity and deaths. In measles, there was also a probable increase in prematurity. In mumps, an increase in fetal deaths followed onset of the disease in the first three months of pregnancy. In chickenpox, the ill effects were minimal, with the exception of an apparent increase in fetal deaths in the first three months.

Rural Mobile Coronary Care

HOWARD MARCUS, M.D.
Haysi, Virginia
RICHARD S. CRAMPTON, M.D.
Charlottesville, Virginia

A Rural Mobile Coronary Care has been established in the town of Haysi in the coal-mining region of the Appalachian Mountains. The town has a population of 500.

MOST EARLY DEATHS from acute myocardial infarction occur suddenly outside the hospital in the first few hours after onset of symptoms[1,2]. During this period of anticipated sudden death from preventable or correctable dysrhythmias, patients in rural areas must be transported for considerable lengths of time to the nearest hospital coronary care unit. This report describes a family physician's system for prehospital emergency cardiac care in a rural community without a hospital.

Material and Methods

The town of Haysi in the coal-mining region of the Appalachian Mountains in southwest Virginia has a population of 500. Haysi's 83 year old physician died in 1959, and for the next 13 years its citizens endured long distance travel for all medical care. In 1972 the Haysi Community Clinic, built largely by local funds, opened with a staff of one physician from the National Health Service Corps of the U.S. Public Health Service. While the clinic provides outpatient care and serves as the local emergency room, the nearest hospital with a coronary care unit is an hour's drive away over narrow, winding, mountain roads. In 1972 a seventeen year-old youth collapsed suddenly in the high school and was brought to the clinic in ventricular fibrillation. There was no defibrillator and the boy died. This tragedy emphasized that without a monitor-defibrillator the physician could accomplish little to alter the fatal course of cardiac dysrhythmias.

In February, 1973 the Haysi Clinic established a mobile coronary care unit (MCCU). The physician trained the three nurses and the volunteer Rescue Squad in cardiopulmonary resuscitation. A $2800 portable battery-powered monitor-defibrillator (Cardio-Pak 906, Mennen-Greatbatch Electronics Co., Clarence, New York) was bought by donations of local service clubs, the United Mine Workers and the Clinchfield Coal Company. Monitoring the electrocardiograph through three precordial electrode cables or two chest defibrillator paddles, this instrument can deliver 40 transthoracic electric shocks at the 400 watt-second level before recharging. the monitor oscilloscope provides a clear image of the electrocardiogram even while riding over rough mountain terrain. The physician and nurses have been trained in monitoring and electrical defibrillation. The monitor-defibrillator is kept on constant charge, ready for use instantly in the emergency room of the clinic and for transport where needed. An emergency bag contains standard emergency cardiac drugs: atropine, lidocaine, furosemide, digoxin, isoproterenol, epinephrine, and bicarbonate. The bag also holds a sphygmomanometer, stethoscope, and intubation equipment. The drugs are kept in pre-loaded syringes since it is difficult to draw up medications while an ambulance is in motion. Three ambulances, two volunteer rescue

From the Haysi Community Clinic, Haysi, and the Department of Medicine, University of Virginia Medical Center, Charlottesville.

and one private, are equipped with oxygen delivery and suction systems, bottles of intravenous solutions and their holders, and extra intravenous catheters and tubing.

When acute myocardial infarction is suspected, cardiac monitoring and a large bore intravenous drip are started and nasal oxygen administered. After relief of ischemic chest pain with a narcotic and stabilization of rhythm with lidocaine or atropine, the patient is transferred to an ambulance without disruption of monitoring. In all cases a physician accompanies the patient directly into the hospital CCU. This system contains the essential features and equipment of the MCCU[3,4], has been adapted for the style of ambulances commonly used by Virginia Rescue Squads[5], and can be staffed by a nurse trained in CCU technics[6].

Results

From February 1, to December 15, 1973, this rural mobile coronary care unit cared for nine patients, aged 46-69 years, who presented to the Haysi Clinic with chest pain and who were transported to the coronary care unit of the Wise Appalachian Regional Hospital. Six patients, five men and one woman, had proven acute myocardial infarction. Three female patients seen in Haysi for presumed pre-infarction angina did not develop myocardial infarction. Two had coronary insufficiency without myocardial infarction, and one had severe relapsing viral myocarditis and pericarditis. On four occasions the MCCU may have prevented fatal arrhythmias.

Case 1. While en route to the hospital in the MCCU, halfway between Haysi and Wise, a 69 year old man with acute inferior myocardial infarction became hypotensive with sinus bradycardia, profuse sweating, and mental confusion. Intravenous atropine 1 mg was given, but heart rate did not increase. After an intravenous infusion of isoproterenol was started, the heart rate accelerated to 80 beats per minute and the patient's condition improved with blood pressure returning to normal. The isoproterenol drip rate was adjusted to maintain a satisfactory heart rate and blood pressure during the journey, and the patient arrived safely at the hospital coronary care unit. The convalescence was unremarkable.

Case 2. During transport in the MCCU, a 46 year old woman with acute inferior myocardial infarction developed frequent ventricular premature beats. An intravenous bolus of lidocaine followed by a lidocaine drip abolished ventricular ectopy. The patient reached the hospital coronary care unit without further complication and convalesced uneventfully.

Case 3. A 69 year old man with acute inferior infarction developed frequent ventricular premature beats and ventricular tachycardia 15 minutes after leaving Haysi. An intravenous bolus of lidocaine followed by drip abolished ventricular ectopy within 10 minutes. During his stay in the hospital CCU, a second episode of ventricular tachycardia responded to intravenous lidocaine. Otherwise the convalescence was benign.

Case 4. A 53 year old man with previous inferior infarction presented with an acute anterior septal infarction complicated by atrial fibrillation and frequent ventricular ectopic beats. Intravenous lidocaine therapy abolished the ventricular ectopy. Upon entering the Wise Hospital the atrial fibrillation spontaneously reverted and the convalescence was unremarkable.

The eight patients with coronary heart disease were discharged from the hospital within three weeks of admission. The patient with myocarditis and pericarditis was transferred to the University of Virginia Medical Center for further evaluation and treatment. None had serious complications during the hospital stay. Two months after discharge, the 69 year old man died suddenly in another town shortly after dismissal from an emergency room where he had complained of chest pain. No autopsy was performed. As of December 31, 1973, the remaining seven patients with coronary heart disease were doing well.

It should be noted that in Case 1 the recommended dose of atropine in 0.3 mg aliquots up to a total of 3.0 mg[7] was not used through

oversight. Although a favorable clinical result and no apparent complications attended treatment with isoproterenol, the use of atropine to remove bradyarrhythmia with hypotension is preferable to the beta adrenergic stimulant, isoproterenol, which may not only evoke dangerous ventricular ectopy, but also exact an undue oxygen demand from the injured ischemic myocardium precisely when oxygen delivery is badly compromised by reduced coronary perfusion pressure from the bradycardic hypotension.

Discussion

Although the mobile coronary care unit has proved its value in Haysi, in Virginia[5] and elsewhere [2,8], educating both the lay and medical community in its use remains the foremost problem. Patients, potential patients, and their families as well as physicians, nurses, and emergency service personnel must be made aware of the danger of delay during the early stages of acute myocardial infarction when sudden death is most likely[1,2]. Transportation to the hospital in an MCCU from the Haysi Clinic is clearly much safer and wiser than rushing to the hospital in the family or a friend's car as advised by some[9] or in an unequipped ambulance with untrained personnel. The experience in Haysi demonstrates that general practitioners in a rural setting using local resources can inexpensively provide and use an MCCU. This type of prehospital coronary care is an essential part of the total systems approach to coronary care[10] and has been shown to minimize morbidity and mortality in the prehospital and hospital phase of acute myocardial infarction[2].

Summary

Rural mobile coronary care in a general family practice is inexpensive and practicable. Educating the lay and medical communities of the need for prehospital emergency cardiac care deserves high priority.

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Drawer W,
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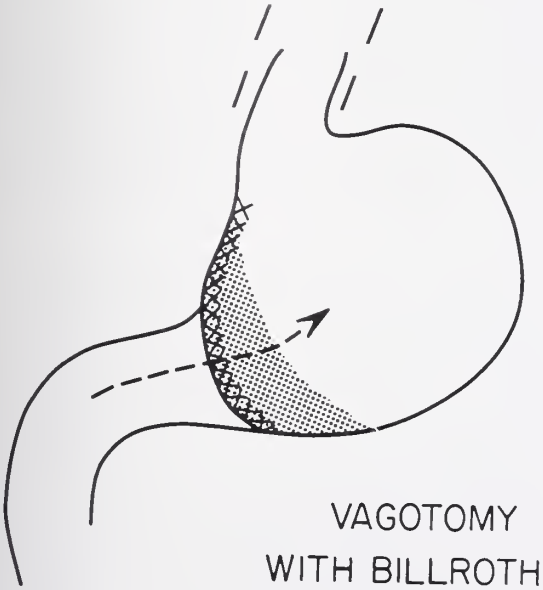
Bile Vomiting with Alkaline Esophagitis after Gastrectomy

WILLIAM M. CROUCH, M.D.
Richmond, Va.

Among the various post gastrectomy syndromes, bile vomiting with severe symptoms occurs 5-10% of the time. Some cases improve in time but medical therapy is frequently ineffective and surgery is necessary. The preferred procedures are described and two cases presented.

A MYRIAD OF POST-GASTRECTOMY SYNDROMES exist incorporating afferent loop syndrome, stomal dysfunction, marginal ulcer, dumping, and bile emesis. These

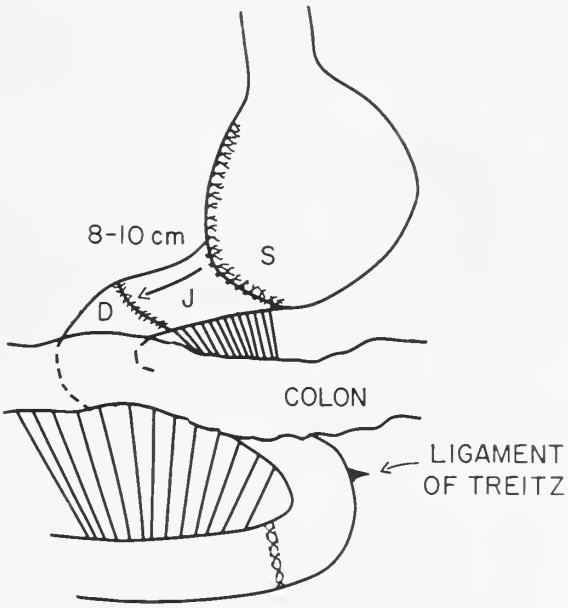


VAGOTOMY
WITH BILLROTH I

present in a variety of ways and are influenced by the psycho-physiologic makeup and motivation of the patient involved. All are complications of previous gastric surgery. Satisfactory therapy may require further surgical reconstruction of an already altered gastrointestinal tract. Two cases of alkaline esophagitis secondary to bile vomiting are presented and their management discussed.

Case Reports

#1 (R.N.) This 53 year old white female postoperative vagotomy, antrectomy, and Billroth I anastomosis in 1962 for intractable ulcer presented with symptoms of epigastric pain radiating to the back, dyspepsia with regurgitation, and intermittent post-prandial emesis with an approximate thirty pound weight loss.

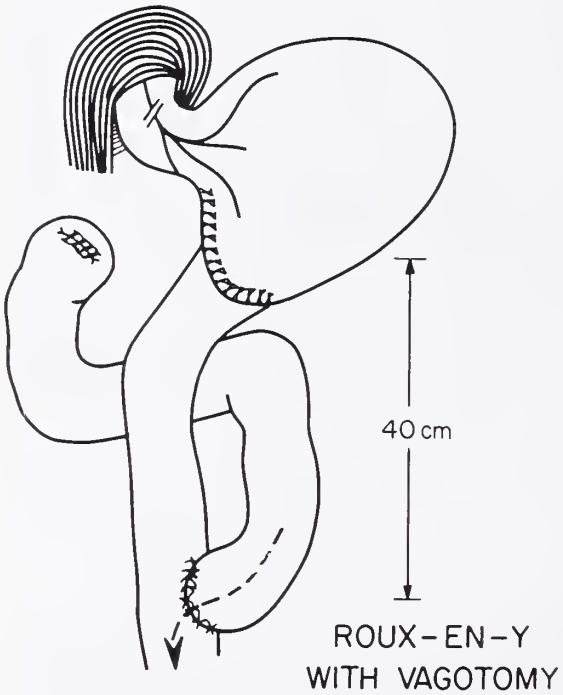


HENLEY ISOPERISTALTIC
JEJUNAL INTERPOSITION

She acknowledged "vomiting gall" after eating and in the early morning on rising. Diagnostic workup included a normal oral cholecystogram and an upper G.I. series that showed a Billroth I anastomosis without evidence of marginal ulceration. Gastroscopy revealed moderate esophagitis with free bile reflux into the distal esophagus. No free acid was present on gastric

analysis. On 1-26-73 she underwent a Hill hiatus herniorrhaphy and the insertion of an interposed 8 centimeter isoperistaltic jejunal limb between the stomach and duodenum. Her convalescence was uneventful and at the time of discharge she had no symptoms of regurgitation.

#2 (M.B.) This 51 year old white male post operative vagotomy, antrectomy, and Billroth I anastomosis for a perforated ulcer in February, 1971, was readmitted in April of 1971 for evaluation of dysphagia secondary to achalasia which had been present for approximately twenty years. A transabdominal Heller procedure was done; however symptomatic relief was incomplete requiring subsequent esophageal dilatation and the performance of a transthoracic Heller procedure in July of 1972. The patient continued to have symptoms of substernal dysphagia, epigastric burning, hiccoughs, frequent nausea and bilious vomiting after eating which were totally incapacitating.



Hematemesis occurred on several occasions. He became anorectic because of pain after eating and weighed 120 pounds, an approximate 40 pound reduction from his usual weight. He was rehospitalized in January of 1973 because of the above symptoms with radiographic evidence of a right upper lobe pulmonary abscess secondary to aspiration. Diagnostic investigation at this time included an upper gastro-intestinal series and esophagoscopy which demonstrated severe esophagitis with a benign stricture occurring 42 centimeters from the incisor teeth. Free bile reflux into the distal esophagus was also seen. Gastric analysis revealed no free acid. Esophageal dilatation to a #48 Hurst was subsequently done. His response to a medical regimen was totally unsatisfactory and on 1-30-73 he underwent a Roux-en-y gastrojejunostomy. His convalescence was uneventful and he was discharged on 2-10-73. When seen as an outpatient on 2-19-73 he was doing well without complaint and had gained six pounds.

Discussion

Bile emesis after gastrectomy is characterized by postprandial epigastric pain and/or fullness and weight loss as a result of voluntary nutritional deprivation incurred because of the anticipated bile vomiting after eating. The epigastric pain is frequently attenuated with explosive bile vomiting either with early morning rising or after eating. Substernal burning and evidence of chronic blood loss are associated with the development of alkaline gastritis or esophagitis. Hemorrhage and stricture are likewise complications of advanced disease.

The incidence of bile vomiting after gastrectomy is 15 to 25 percent with symptoms described as severe 5 to 10 percent of the time.

The etiology is related to the postoperative absence of a pylorus which normally prevents bile regurgitation. Hence, there is free reflux of duodenal content into the stomach and esophagus. This disorder, described more extensively in the British literature than our own, has been thought by some to be related to the mechanical kinking of the afferent limb with intermittent obstruction and subsequent distention. As the intralumenal pressure increases there may be duodenal stump disruption early in the postoperative period with disastrous consequences; or with chronic symptoms, decompression from the afferent limb into the

stomach may occur with associated bile emesis. This closely relates to the afferent loop syndrome.

Bile emesis is seen most often with a Billroth II anastomosis of the Polya type done in an antecolic fashion with a long afferent limb. However, an afferent limb is not an absolute prerequisite for this syndrome in that it is seen to a lesser degree after Billroth I and pyloroplasty.

The literature offers an unique situation of a postgastrectomy patient with a Billroth II anastomosis with symptoms of bile vomiting who developed cholecystitis and underwent a cholecystectomy with placement of a tube in his duodenal stump for subsequent study. Analysis under fluoroscopy showed that the infusion into the duodenal stump of a significant quantity of saline or gastrograffin failed to produce the characteristic syndrome, but infusion of a bile solution did cause the afore described symptom complex of epigastric pain and bile vomiting. No mechanical afferent limb kinking was noted fluoroscopically. Rather the solution flowed smoothly from the afferent limb into the gastric remnant causing the fundus to dilate, although the juxtastomal stomach did not distend. When a sufficient quantity of bile pooled in the stomach, bile emesis ensued and the symptoms subsided. Therefore, in this patient, graphically illustrated, bile acted as a gastric irritant to interfere with gastric emptying and produced the syndrome of bilious vomiting.

It has been demonstrated in monkeys having undergone operations to promote bile reflux into the esophagus that bile, not gastric juice, played a considerably more significant role in causing esophagitis.

Diagnostic investigation of the patient with bile vomiting should include upper gastrointestinal series, gastric acid determination, and gastroscopy. The first of these is good for determining the presence or absence of marginal ulceration, although frequently the afferent limb does not fill with contrast.

Successful treatment usually requires operative reconstruction although this should be reserved for the patient with severe symptomatology and then only two or three years after the primary gastrectomy in that some bile vomiting is spontaneously relieved with time. Antacid therapy has no value in an alkaline gastritis or esophagitis.

Several operations proposed to modify this symptom complex include the conversion of a Billroth II to a Billroth I, afferent-efferent entero-enterostomy, Henley isoperistaltic jejunal interposition, and Roux-en-y, the latter two being more efficacious. The objective is to anatomically detour the alkaline bile flow to keep it away from the stomach and/or esophagus. The fear of creating a marginal ulcerogenic situation by removing the alkaline buffer from the gastric outflow zone is more potential than realistic, in that the actual incidence of marginal ulcer after these procedures is extremely low. Results from several series utilizing either the Henley isoperistaltic eight to ten centimeter jejunal interposition between the stomach and duodenum or the forty centimeter Roux-en-y to modify bile vomiting after gastrectomy are good.

Summary

Two post-gastrectomy patients with severe symptoms of bile emesis and alkaline esophagitis are presented and their subsequent operative correction discussed. Bile vomiting after gastrectomy with severe symptoms occurs 5-10% of the time. Medical therapy is frequently ineffective, so that subsequent surgical intervention is necessary. The two most favorable reconstructive procedures are the Henley isoperistaltic jejunal interposition and a Roux-en-y gastrojejunostomy, both done safely without fear of subsequent marginal ulcer.

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(*continued on page* 141)

Cancer Trends . . . .

Edited by—
WALTER LAWRENCE, JR., M.D.
Richmond, Virginia
J. SHELTON HORSLEY, III, M.D.
Charlottesville, Virginia

Childhood Leukemia—Perspectives 1974

DIANE M. KOMP, M.D.
EDWIN B. VADEN, M.D.
DELORES STEVENS
JOHN B. ARNOLD, M.D.

Is acute leukemia in childhood a curable disease? Not for the majority of children with this feared disease. Although five year *survival* rates have vastly improved, much work remains to be done to control leukemia. In a rural state like Virginia, the specialized care for childhood cancer as offered in the medical schools is not easily accessible to every citizen. Optimal care can best be achieved by team work between the physicians at home and at the center. In addition, the patient's family can be considered a member of the health care team.

Recent Advances

Regimens recently reported that have high remission rates and longer survival have several features in common. They use agents that rapidly induce remission, prophylactically treat the central nervous system (CNS) and "consolidate" or "reinforce" remission maintenance therapy. Of great importance at our center has been the reduction in patient morbidity by delaying or preventing meningeal leukemia. In past years CNS leukemia was the most frequent cause for hospital admission.[1] The most effective and least toxic form of CNS prophylaxis remains to be determined. Most centers employ intrathecal methotrexate alone or in combination with radiotherapy. Studies from Acute Leukemia Group B[2] and St. Jude's Children's Research Hospital[3] report that prevention of CNS leukemia prolongs the length of the first remission.

Prior to these advances in antileukemic therapy, a group of patients stood out as long term survivors despite relatively simple therapy.[4] While hope for the majority of patients currently rests with intensive therapy, vital information can hopefully be gained from a study of these unique patients.

M.W. first presented with acute lymphoblastic leukemia at 4½ years of age to the University of Virginia Hospital. Remission was achieved with prednisone and 6-mercaptopurine. Thereafter, 6-mercaptopurine and methotrexate were alternated every three months as oral maintenance therapy. After eight years of continuing complete remission, all therapy was stopped. Five years after discontinuation of therapy and 13 years after diagnosis, he remains disease-free and enjoys a normal life.

Sponsored by the Professional Education Committee, Virginia Division American Cancer Society.

KOMP, DIANE M., M.D., *Associate Professor of Pediatrics and Director of the Childhood Leukemia Program, University of Virginia School of Medicine, Charlottesville.*

VADEN, EDWIN B., M.D., *Pediatrician in private practice in Lynchburg.*

STEVENS, DELORES—Mrs. Stevens lost a son with leukemia in 1972. She is a volunteer in the Childhood Leukemia Program at the University of Virginia School of Medicine, Charlottesville.

ARNOLD, JOHN B., M.D., *Fellow of the Childhood Leukemia Program, University of Virginia School of Medicine, Charlottesville.*

The authors wish to thank Dr. McLemore Birdsong for the yearly privilege of sharing patient M.W.

Role of the Community Physician

Participation in a progressive leukemia program can be most rewarding for the family physician who has referred his patients to such a center. He appreciates the fact that the patient gets the best possible care. In the past when therapy was not very promising, the patient's family and his physician were in a state of turmoil from the time of diagnosis until the patient's demise. If he receives detailed medical reports after each center visit, he can feel that he, too, is a member of the team in the total care of the patient. He is spared the day to day decisions regarding specific treatment of a disease in which it is difficult for him to be objective. Frequently he can be of service to the family in deciding whether an intercurrent illness is related to his leukemia and spare him a trip to a distant center.

Can the impact of this increasing alliance between community physicians and university specialists be quantitated? During the past few years, many advances in care have contributed to the improved fate of the child with leukemia. None can outweigh a significant factor —physicians in Virginia are diagnosing leukemia earlier and referring patients who have a better chance to respond (Table 1).

TABLE 1.

Characteristics of Children with Acute Lymphoblastic Leukemia Treated at University of Virginia 1967-1973

	1967-1970	1971-1973
% Severe Infection on Admission	47	17
% Death During First Month	16	0
% Complete Remission	84	100

Role of the Leukemia Center

In addition to the provision of maximal medical care for each patient, a center that solicits the referral of children with leukemia has obligations to the community physician and family. Although the prognosis has improved greatly, the outlook for all children is not yet optimal. A center must contribute new knowledge in the areas of disease characteristics and treatment. Collaborative studies with other centers are engaged in by the University of Virginia through the Southwest Oncology Group and the Medical College of Virginia through Acute Leukemia Group B.

A center that is part of a medical school should appreciate its responsibilities in the education of physicians who will not primarily care for cancer patients. Experiences of young students and house officers with dying patients will influence their later ability to support families in their own practices. On our service, regular but informal sessions are held to allow these young people to freely discuss their feelings. Both students and house officers welcome the opportunities to mature in their dealings with patients through these activities.

Centers accepting the referral of childhood leukemia patients should provide for the continuing education of their referring physicians. Not all physicians have the time to attend postgraduate courses or review specific journal articles. A detailed note about his patient following each center visit relays a great deal of information about leukemia to the doctor at home.

Role of the Family

As the child goes into remission, the family begins to settle back into their former routine. "Normal" living presents a paradoxical problem to the parents. They need to actively do something for their child. In the process of successful coping, many people benefit from being able to extend their help to others while their own child in remission is not as much in need. For some parents, this represents an element of denial.[5] This is not, however, psychologically harmful. It is common at Christmas, for instance, for parents to have the patient and his siblings prepare gifts for the children still in the hospital. We have asked parents of patients who are doing well to share their experiences with new families and help answer their questions. At first we had offered some structuring for these encounters but found that the lay counselor frequently was more skilled than the medical professionals. The counseling family tends to emphasize the meaning of complete remission and the importance of quality survival. Simultaneously, they remind themselves of priorities for their own lives.

Conversations with several families alerted us that medical students and house staff feel guilty for not being personally able to help them. We've invited some of these students and families to turn the tables. The families share with them their personal experiences which are valuable in the training of a sympathetic physician. Parents (and patients) frequently "adopt" students and house officers.

> Dr. B. began an elective resident rotation in pediatric hematology by announcing that he had been dreading it all year. His lack of ease was noted by the family of G. W. While evaluating the child for possible hospitalization during his final illness, Dr. B. said that the decision was a rough one that he would need to discuss with the attending hematologist. The family was sure that the three of them could work it through together. *They* brought up the pros and cons of hospitalization, asking his advice about each. When a short term admission was decided, they thanked him for help in reaching the decision. Dr. B. became an effective supporting pediatrician. He commented that he had been well taken care of (by the families) during his time on hematology.

> J. W. was admitted to the hospital close to her terminal illness for a course of chemotherapy. The admitting resident was new at the University and impressed Mr. W. as a warm, compassionate man. That evening, Mr. W. spent several hours talking to the resident about pediatric hematology as a career. The next morning the father excitedly reported, "I think I have *us* a good prospect for a fellow for next year!" The resident started a fellowship with us the following summer.

The house staff and students welcome conferences that are question-and-answer sessions with patients or parents about their reactions to their illnesses. They ask these families for advice in dealing with their future patients. The advice is valuable and honest. Parents and patients find subsequent hospitalizations less traumatic as they see their advice in action.

The Team and the Terminally Ill Child

Death of a child that follows an acute unexpected illness frequently leaves the bereaved family unprepared to cope with the loss. Prolonged periods of complete remission provide time to help the family prepare themselves for a probable fatal outcome. As they see children other than their own relapse and die, they have the opportunity to think about how they will personally handle the problem when it is their turn.

It has been our practice as patients approach their final relapse to gently encourage the family to discuss their emotional preparations for the child's death. Whenever it is medically reasonable for the child and emotionally feasible for the family, we have encouraged them to keep the child at home. With the knowledge that both the community doctor and the center stand ready to help them if pain or hemorrhage create discomfort, most families benefit from the dignity of their own home. Most young patients consider the hospital a place to obtain help. When facing the acceptance of imminent death, their wishes to remain at home should be respected. They recognize our inability to alter the inevitable. Even a three or four year old patient can be relied upon to request hospitalization if he needs it. If during the prior years of his illness he has been able to receive medical care in an atmosphere where his needs and desires were respected, his terminal problems are fewer. Death at home may not be the best management for every child, but the medical team must learn to offer this possibility. In our experience, it is a new concept to many families but the most acceptable alternative to most Virginians.

Following the death of a child with leukemia, the job of total care is not complete. Families almost always return to visit, ask about our research, and visit other patients. Although the reason for these visits is said to be to thank the staff who cared for their child, they serve other purposes. Revisiting places where they had been before with the child can serve as the final evidence that the child is really gone. An invitation to drop by and visit a new family on the ward provides an outlet for the need to help someone. The social as-

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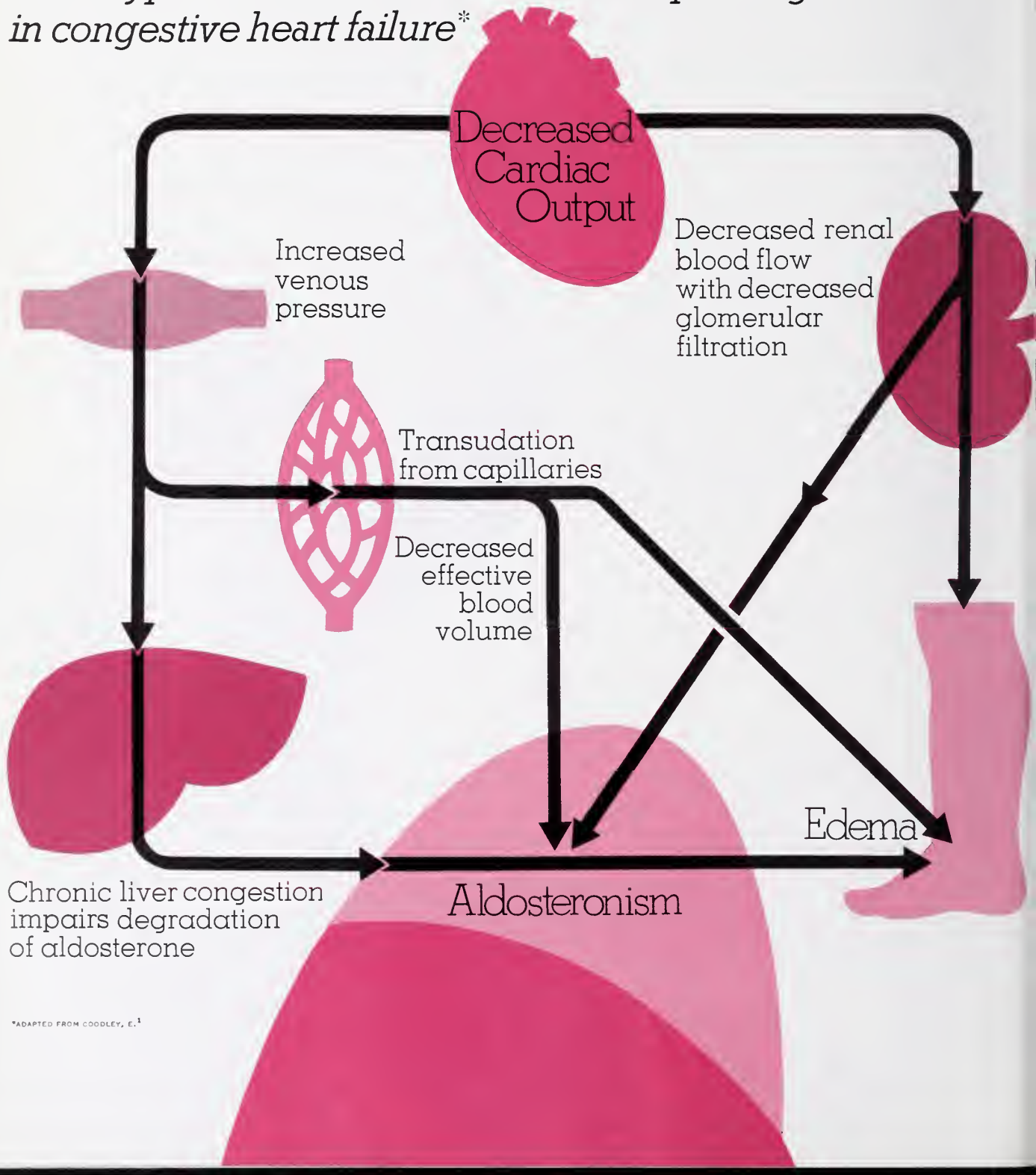

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Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops. **Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.**

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopapular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For **essential hypertension** in **adults** the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or **effusions** in **adults** initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For **children** the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

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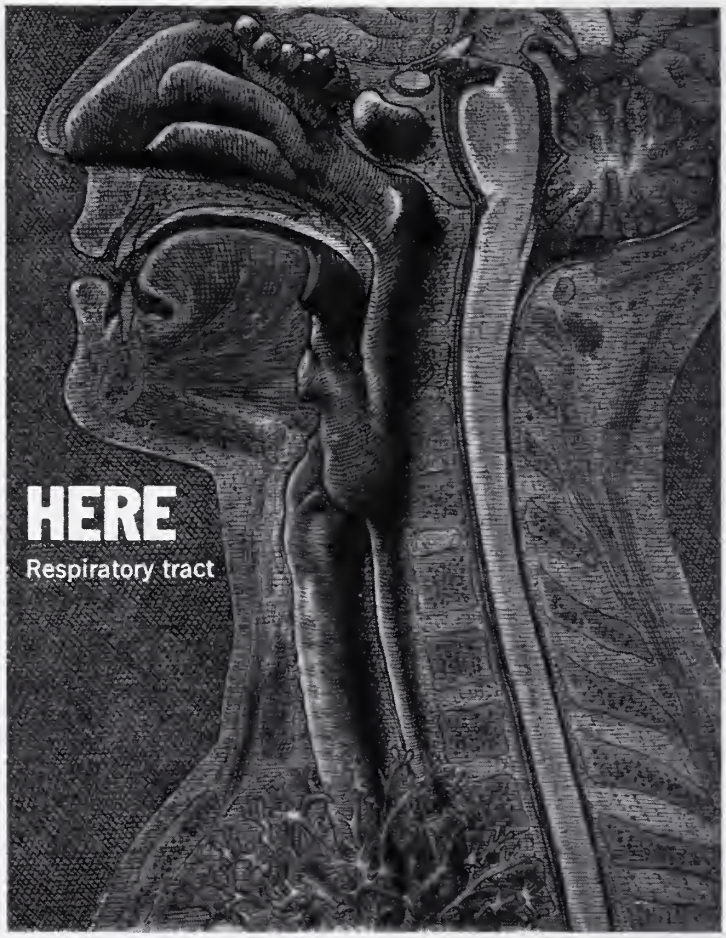

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pects of frequent center visits are now gone for the family. Visits to the community doctor for minor problems with their other children reflects the need to reestablish old patterns. When recognized by the community physician, he can not only help by being a sympathetic listener but can alert the center physicians that Mr. and Mrs. X may wish to "help out in the program". Responsibility does not end with the death of the patient.

J. H. was a child with leukemia from a rural area of Virginia. He was one of several children born out of wedlock to an impoverished woman without any family other than her children. Prior to his illness, this family had little social contact outside their wooden shack. During the three years that he lived, medical staff and families of other patients took an interest in the entire family, frequently bringing clothing for the children or visiting them in their home. The child became very attached to several male house officers who were obvious father substitutes. Following his death, these contacts ceased. Ms. H. visited the hospital several months later and mentioned that her youngest child had a speech problem. An appointment was set up for her in the pediatric clinic where the house staff greeted her warmly and were glad to reestablish contact for her with people who cared about her and her family.

Summary

While medical advances in leukemia are developing, hundreds of families in our State daily cope with effective quality survival. By close cooperation of community doctors with leukemia specialists, families in Virginia facing this dilemma can be assured the best possible care and support until cure is a reality for every child.

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COMMENT

The authors have given us real insight into the human side of the management of the child with leukemia. It is most appropriate to have such a discussion presented by a multidisciplinary group who share important roles in the overall care of the patient. Much can be learned from each of these people and the patient greatly benefited as we seek not only to increase the length of survival but also to improve the quality of life.

The Editors

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Practice of Midwifery

The Rules and Regulations for Practice of Midwifery was amended by the Board of Health on November 28, 1973, and sent to public hearing. This supercedes the Rules and Regulations as they appeared in the December, 1973, issue of this journal.

Rules and Regulations of the Board of Health Commonwealth of Virginia
Governing the Practice of Midwifery

(Adopted under Section 32-167.1 through 32-167.6 of the Code of Virginia)

I. PERMIT FOR PRACTICE OF MIDWIFERY

A. Each applicant for a permit to practice midwifery shall:

1. Apply on a form provided by the Local Health Director.
2. Present letters of reference from each of two local practicing physicians who personally knows the candidate to be sent directly to the Local Health Director for the area involved.
3. Be not less than 18 years old and not more than 65 years of age.
4. Observe and assist with ten or more hospital deliveries.
5. Pass a physical examination given by the Local Health Director or a practicing physician. This examination to include but not be limited to a chest x-ray, blood test, cervical or penile and rectal culture and throat culture.
6. Conform with acceptable moral reputation and adhere to high standards for personal cleanliness, neatness and demeanor.
7. Beginning July 1, 1974, applicants for a midwife permit must be a registered nurse in good standing in Virginia and a graduate of a school of midwifery accredited by the American College of Nurse Midwifery.

B. When all of the above conditions have been met satisfactorily, the Local Health Director shall certify the application and forward it together with the two letters of recommendation to the Director of the Bureau of Maternal Health. The permit, signed by the Director of the Bureau of Maternal Health, together with a midwife pledge card shall be sent to the Local Health Director. He shall sign the permit and present it to the midwife. The applicant shall sign the pledge card in the Health Director's presence who shall then forward it to the Director, Bureau of Maternal Health.

C. All permits now in effect shall be continued and renewed every two years unless suspended for cause.

D. All new permits issued and all permits now in effect shall be renewed every two years by the Local Health Director who shall certify that the midwife is in compliance with existing Rules and Regulations for nurse midwife practice unless cause appear to the contrary.

II. REGULATIONS FOR PRACTICE OF MIDWIFERY

A. Midwives shall observe the following regulations in the practice of midwifery:

1. Each patient attended by a midwife must have had prenatal care by the Local Health Department or a private physician. A "Certificate of Examination" (provided by the Health Department) is to be completed by the physician and given to the patient at or following her 8½ month of pregnancy. The "Certificate of Examination" must be in the hands of the midwife before she renders any service.

1-a A nurse midwife may assist in providing prenatal care.

2. Place two drops of 1% nitrate of silver solution (provided by the Health Department) in the conjunctiva of each eye of the baby immediately upon birth.
3. Report each live birth to the Registrar at the Local Health Department within seven (7) days of such birth.
4. Report the birth of a dead baby immediately to the County or City Medical Examiner and to the Local Health Department.
5. Every infant weighing 5½ pounds or less at birth must be reported immediately to the Local Health Department.
6. Comply with all Local Health Department directives relating to the practice of midwifery.
7. Continuously maintain all equipment and supplies in medically clean and acceptable condition.

III. REVOCATION OF PERMIT

A. The midwife permit may be revoked or suspended by the Director of the Bureau of Maternal Health upon evidence that the midwife has failed to comply with any one of the above requirements.

BILE VOMITING WITH ALKALINE ESOPHAGITIS AFTER GASTRECTOMY —Crouch

(*continued from page* 131)

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Medicare—Part B . . . .

CURTIS J. KELLY, JD

Durable Medical Equipment (DME)

Part B receives several thousand claims each year for Durable Medical Equipment. Such items as wheelchairs, crutches, hospital beds, and other equipment primarily and customarily used to service a medical purpose fall within this definition.

Such equipment is covered by Medicare provided that the equipment is necessary and reasonable for treatment of illness or injury. These requirements then bar payment for equipment which cannot reasonably be expected to perform a therapeutic function or will permit only partial payment when the type of equipment substantially exceeds that required for treatment of the illness or injury involved.

Medical supplies of an expendable nature such as incontinent pads, lambs wool pads, catheters, ace bandages, elastic stockings, etc., are not considered "durable" and are excluded from the definition of DME.

The Social Security Administration has published guidelines for many items of equipment. A few examples include:

Hospital Bed—May be considered only if patient is bed confined and his condition requires positioning the body in a way that would not be feasible in an ordinary bed.

Bed Rails—Consider when patient is bed confined and disoriented.

Commode—Consider if patient is bed or room confined.

Wheelchair—Consider when the alternative would be chair or bed confinement.

Grab Bars—Deny—Self-help device, not primarily medical in nature.

Standing Table—(Bedside Table)—Deny—Convenience item; not primarily medical in nature.

Treadmill Exerciser—Exercise Bicycle—Deny—Exercise equipment.

Maxi Myst—Covered if patient's ability to breathe is severely impaired.

Medco-Minalator—Deny—Inappropriate for home use.

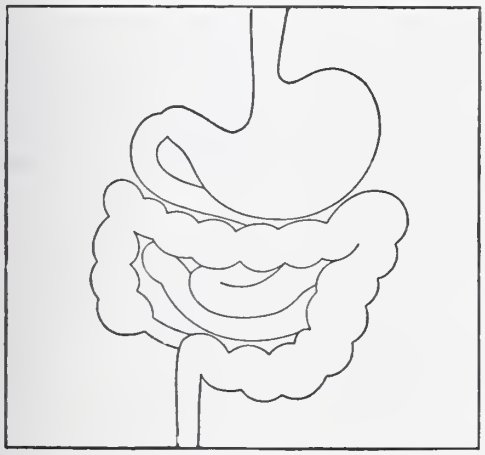
The examples above are intended to illustrate that in addition to medical information demonstrating the equipment is necessary, as a matter of course information that justifies its medical purpose is also required. In addition, please provide an estimate of the period of time the equipment will be so required.

Frequently a physician will write that Mrs. Jones required a hospital bed, wheelchair, etc. This is not sufficient to permit processing and results in telephone calls or letters to your office.

Please when certifying the need for DME:

1. Provide a diagnosis that evidences that the DME is reasonable.
2. Advise the medical purpose it will serve.
3. Advise the length of time you believe the equipment will be required.

in "Gasspastic" conditions



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Contraindications: Anticholinergics should not be used in patients with glaucoma, known prostatic hypertrophy, or pyloric obstruction. Urinary retention may indicate the presence of prostatic hypertrophy. If it occurs, the dose should be reduced or the drug withdrawn. Also contraindicated in patients with known hypersensitivity to one of the components.
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What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual searring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual searring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

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After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

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Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

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Woman's Auxiliary . . . .

Annual Report

The following is the annual report of the Woman's Auxiliary which was presented to The Medical Society of Virginia. It was prepared by Mrs. William J. Reardon, president for 1972-3:

Our 50th Anniversary year has truly been a GOLDEN year for Virginia. Our theme of "Commitment and Involvement" emphasized the role of the auxiliary member in her community. Our aim has been to show by our actions that we, like our husbands, are concerned about better health care in all its phases.

The year began even before convention time. Workshops for County Chairman of the major committees were held in Williamsburg and Roanoke. It was a time for sharing ideas, problems, solutions and of learning for all concerned.

The Fall Conference for Presidents and Presidents-Elect in Chicago as well as the Eastern Regional Workshop were attended and provided excellent guidance and information to bring back to Virginia. It was also my privilege to attend the Southern Medical Convention and see our former President, Mrs. W. Nash Thompson installed as President-Elect.

Membership continued to have top priority. With the enthusiastic leadership of Virginia Fletcher, and the continued assistance of The Medical Society of Virginia, our membership again increased and a new auxiliary is being formed in Prince William County.

Since our aim was to be Committed and Involved, how better to achieve this goal than to join with other organizations in the field of Health Education. The American Dietetic Association, The Junior Federation of Women's Clubs and the Virginia Council on Health and Medical Care co-sponsored a program on Nutrition with the State Auxiliary. Two doctors' wives are on the Board of the Virginia Mental Health Association. For the programs "Depression in Women" and educational efforts in this field, our Health Education Chairman was given a Certificate of Achievement by the Virginia State Mental Health Association. Our congratulations to Anne Smith. "Talking Books" was also sponsored by the State and 16 of our county auxiliaries participated in this program. We joined with the Cancer Society and the Heart Association in the presentation of local programs. Because of this cooperation, we were able to reach more people in each community.

Legislation became a Red Letter word this year with the LEGS program and Legsline were instituted. With the assistance of the Medical Society, the Auxiliary had a "Day in the Legislature" and toured the Capitol, and received a complete description of each bill dealing with medical legislation that was pending or was to be introduced. We were happy that Gail Neal was invited to sit in on the Legislative Committee Meetings of the Medical Society and that the Auxiliary Legs program aided in the passage or tabling of several bills.

To make our Golden Year sparkle, a grand total of $27,181.39 was raised for AMA-ERF. It was my privilege to personally present the checks to the deans of our three Virginia medical schools at a meeting of the local medical societies, and to emphasize the importance of this project to all doctors. Our sales boutique was always available with the slogan "Have Trinkets, Will Travel". It was exciting to work with Frankie Welch and Naomi Beckenstein on the AMA-ERF scarf design and to have it adopted as a national fund-raising project. It is particularly appropriate to Virginia as it features the dogwood leaf in its design.

International Health continued to ship medicine this year. The state continued also their support of an adopted child but were pleased that two auxiliaries adopted a child of their

own. With many families, IHA became very personal by corresponding with a doctor and his family in other countries. Books were sent to doctors in other countries as well as several shipments to the Book Depot in Kentucky. One Auxiliary used the personal letter and shipment of books to individual doctors as part of their Doctors Day program.

Health Manpower continued their educational program in the schools and provided advisors to Health Careers Clubs. A total of 180 Health Career Days were held.

With the outstanding programs in most of the Auxiliaries in the field of Volunteer Health Services, it was shown just how involved doctors wives really are. It was unfortunate that HEW had to cancel their awards this year as we had been informed by Dr. Ellis that the Tazewell Auxiliary was a top candidate to win. During a three week strike by some of the personnel (not R.N.'s) at the local hospital, the members volunteered to work where needed. An outstanding program on Safety on the Streets was also put on by another Auxiliary.

The second "Quality of Life Congress" was attended by Virginia Fletcher and myself. This dealt with the Middle Years (I found out all about myself).

During the year it was a delight to be able to visit with every Auxiliary and an organizational coffee in Prince William County. The warmth of your hospitality and the chance to meet and get to know so many of you are the highlights of this year. With each visit my pride in the Auxiliary members in Virginia grew.

Virginia is particularly proud of Mrs. Daniel Anderson of Norfolk who has served on the Board of the Woman's Auxiliary to the American Medical Association as a Director and member of the Communications and By-Laws Committee. She will continue this coming year as a Director and will also be Reports Chairman. Five Auxilians have been honored this past year by their communities for their outstanding community work. Mrs. Pinson Neal was named Clubwoman of the Year in Richmond, Mrs. James Brunk was named Woman of the Year in Harrisonburg and in Danville Mrs. Henry Fourne received the "Citizen of the Year" award. Mrs. Francis McGovern received the 1972 Citizenship Award and Mrs. Samuel Newman had a $500 Fellowship Fund named in her honor by the American Association of University Women. My congratulations to these women. We are indeed proud of their commitment and involvement.

The climax of the year was the Annual Convention of the Woman's Auxiliary to the American Medical Association in New York City. I wish I could convey to you the tremendous thrill it was to attend as the Virginia Presidential Delegate. The Virginia Delegation was composed of Mrs. Donald Fletcher, Mrs. William Gordge, Mrs. William Beckenstein, Mrs. Charles Smith, and Mrs. L. C. Strong with four alternates standing by. My special thanks to them for being so attentive and knowledgeable throughout the entire convention. To say Virginia glowed at the convention is an understatement. It is because of the tremendous work done by the Board, Committee Chairmen, County Presidents, County Chairmen and every member that Virginia received three National Awards—the AMA-ERF award for the largest increase in the Eastern Region, an AMA-ERF award for achieving over the $10.00 per capita contribution, and an award in Membership for the large increase. Commendations were also received from the National Chairmen of Health Education, Health Manpower, Volunteer Health Services and International Health on the outstanding work done in these fields by the Virginia State Chairman.

It has been a memorable year with never-to-be forgotten joys. Virginia Fletcher, your President-Elect, has been my greatest support and asset. This year would not have been possible without her and I am most grateful for the pleasure and fun of traveling with her and knowing her. Virginia will indeed climb to even greater heights under her capable leadership. Words can never fully explain how honored and privileged I felt to represent you. My heartfelt thanks to each of you for giving me a part in the "Golden Year". The joy of serving as President of the Woman's Auxiliary

to The Medical Society of Virginia will always be a cherished memory and I shall be forever grateful. Most of all I want to say thank you for your treasured friendships.

Along the lane of memories
The blossoms never fade
For near and far, still cherished are
The friendships I have made.

Antiques and Arts Show

The Woman's Auxiliary to the Richmond Academy of Medicine will hold their twelfth Antiques and Arts Show and Sale at the Hotel Jefferson in Richmond. The Show will be on March 14, 15, and 16. Show hours on Thursday and Friday are noon to 10 pm, and on Saturday from 10 am to 6 pm. Proceeds from the Show will benefit: Jerome Frost Smith Memorial Dialysis Unit, Adult Development Center, and the Richmond Area Psychiatric Clinic.

The 1974 Show will open with a Patrons' Preview Sale and Champagne Reception on the evening of March 13 at eight. Tickets are fifteen dollars a couple (tax deductible). Advance reservations are required for the Reception.

Mr. Harold Sack, President, Israel Sack, Inc., will be the featured lecturer on March 15, at 7:30 pm, in the Rotunda Club of the Jefferson. The lecture topic is: "How to Judge Authenticity in American Antiques." Lecture tickets are five dollars each, which includes admission to the Show. Advance reservations are suggested for Mr. Sack's lecture.

A very special Loan Exhibit will be displayed in the Washington Room of the Hotel: "18th Century Americana From Virginia Collectors". The exhibit will feature American furniture and accessories from the collections of a number of Virginians with a special emphasis on Southern furniture.

Antiques dealers will be exhibiting in the Lobby, Mezzanine and Empire Room of the Jefferson. Exhibitors are: Antiques America; William and Robert Arnett; John Bihler and Henry Coger; John A. Christoffel; Gary C. Cole; R. E. Crawford; The Don Eckels; Edgeworth Imports Ltd.; Cynthia Fehr Antiques; H. M. Goodman Antiques; Lindsay Grigsby Antiques; Hastings House Antiques; Hobart House; Arthur Guy Kaplan; Gladys Koch Antiques; The Little Shop; The Millstone; Miss Kitty's Antiques; Pembroke Antiques; Glenn C. Randall; Reese Antique Company; Side Door Antiques; Swan Tavern Antiques; Timothy Trace; Village Green Antiques; The Virginians; Carole Wahler Antiques.

The Jefferson Ballroom will be filled with the contemporary arts. Exhibiting will be: American Folk Art; A.I.D.; Anderson Galleries; Bea Klein; Henrietta Near; Kitty Schwarzschild; Eric Schindler Gallery; Hand Work Shop; Willie Anne Wright; Clifford Earl; Anne Heiberger; Sam Forrest.

* * *

For Preview Reception and Lecture tickets and additional information write: Mrs. Harold I. Nemuth, 5518 Riverside Drive, Richmond, Virginia 23225.

Editorial . . . .

"Jennie" and British Medicine

NOW that PSRO appears to be an accomplished fact, America has taken another long stride down the primrose path of government medicine. On occasions such as this, one is prompted to reflect again on just how medicine has fared in the countries that have preceded us along this route of no return. Great Britain, of course, comes to mind first, for our ties to that country are closer than with non-English speaking nations. We also seem to have a built-in, ineradicable yearn to repeat the mistakes our British cousins insist on making.

Let us see what English physicians think about their system after 25 years of nationalized medicine. Many American doctors visit the United Kingdom each year and the question they most often ask their colleagues is how they like their own brand of medicine. The majority of British physicians appear reconciled to the present system but they show little enthusiasm for it. There are some, chiefly in the upper echelons of government or teaching, who have benefited from some special aspect of the situation. There are others who are strongly opposed to the present system, but these, more often than not, are now practicing on this side of the Atlantic.

But most important of all—just what do the people of Britain think of the medical care they receive? Taxi drivers in London are excellent purveyors of information. When asked about British medicine they often say "it is pretty much the same as it used to be but it is now cheaper and easier to get." This naturally raises the question as to how good it was in the past and how it compares with present-day medicine elsewhere.

It is universally conceded that the pre-clinical courses in British medical schools are outstandingly good. The clinical subjects, however, do not enjoy the same reputation when measured by American standards. This shortcoming frequently appears to carry over into the everyday practice of medicine. An example of British surgery is recorded in a recent biography of Winston Churchill's American-born mother.

This two volume, definitive life of Lady Randolph Churchill, entitled *Jennie*, by Ralph G. Martin, comes to an abrupt and tragic close with the death of its subject in 1921. During a trip to Rome, Lady Randolph purchased a pair of Italian shoes with unusual and awkward heels. A few days after her return to England and while visiting a friend, she wore her new shoes and tripped on an unfamiliar stairway. She fell the final three steps to a landing.

A physician came promptly and said she had a bad fracture of the left leg just above the ankle.

"The bones were set and two days later she was taken in an ambulance with a doctor and nurse to her home in London. There was little displacement but there was considerable swelling of the ankle and foot. Progress was satisfactory at first, but within two weeks a portion of the skin blackened and gangrene set in. When her fever became dangerously high, Winston was called."

Her son, in turn, called a surgeon and within two hours an amputation above the knee was carried out. Lady Randolph's only request was "to please make sure he cut high enough." Again she did well for two weeks but remarked to her sister, "The more it hurts, the more those devils of doctors like it. They say it is healing." The following morning while eating breakfast, and without warning, the femoral artery gave away and she quietly bled to death.

The writer would be the first to point out that one swallow does not make a summer and this tragedy occurred half a century ago. It is also true the gangrene of her foot and leg may not have been due to constriction of the cast. Perhaps the tie that slipped off the femoral artery was not the result of technical error. But the fact that this combination of mishaps should have happened to one of the outstanding personages in England, with no indication by the author of *Jennie* that the outcome fell short of perfection, gives one long and thoughtful pause by American standards. Just what type of medical yardstick do they use in Great Britain?

. If medical care in the United Kingdom is "pretty much the same as it used to be", would the same thing be said of American medicine after a quarter century of socialization in this country?

H.J.W.

News....

Calendar of Events

CONTINUING EDUCATION PROGRAMS SPONSORED BY UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE

"What's New in Burns"—Waynesboro Community Hospital—Waynesboro—February 26, 1974.

"Diabetes—New Concepts and Developments"—Southwest Virginia Conference Circuit—February 27-28, 1974.

"Neo-Natal and Small Baby Problems"—Southwest Virginia Conference Circuit—February 27-28, 1974.

"New Developments in the Emergency Care of the Cardiac Patient; Mobile Coronary Care Units and Heart Attack Rescue Services"—King's Daughters' Hospital—Staunton—March 5, 1974.

"Management of the Injured Face"—Langley Air Force Base— March 14, 1974.

"Surgical Treatment of Coronary Artery Disease"—King's Daughters' Hospital—Staunton—April 2, 1974.

"Angiographic Diagnosis in Gastrointestinal Hemorrhage"—Waynesboro Community Hospital—Waynesboro—April 23, 1974.

"Coronary Care"—Southwest Virginia Conference Circuit—April 24-25, 1974.

"Coronary Bypass Surgery and Selection"—Southwest Virginia Conference Circuit—April 24-25, 1974.

CONTINUING EDUCATION PROGRAMS SPONSORED BY MEDICAL COLLEGE OF VIRGINIA

"Law Institute on Hospitals and Medicine"—Richmond—March 8, 1974.

"Pathology Board Review of Clinical Chemistry"—Richmond—March 20-23, 1974.

"Charles W. Thomas Lecture"—Presented by Division of Connective Tissue Disease—George Ben Johnston Auditorium—Richmond—April 16, 1974.

"Hand Seminar"—Presented by Divisions of Orthopedic and Plastic Surgery—Sanger Hall—Richmond—April 19-20, 1974.

OTHER EVENTS

Virginia Neurological Society—Annual Meeting—The Homestead—Hot Springs—February 15-17, 1974.

American Academy of Pediatrics, Virginia Chapter—Annual Meeting—Williamsburg Lodge—Williamsburg—February 21-23, 1974.

E. C. Hamblen Symposium in Reproductive Biology and Family Planning—Sponsored by Department of Obstetrics and Gynecology, Duke University Medical Center—Duke Medical Center—Durham, North Carolina—March 15-16, 1974.

AMA-AMPAC Public Affairs Workshop—Washington-Hilton Hotel—Washington, D. C.—March 15-17, 1974.

Tri-State Medical Association—Annual Meeting—Hotel Roanoke—Roanoke—March 21-24, 1974.

Annual Clinical Conference—Sponsored by Louise Obici Memorial Hospital—National Guard Armory—Suffolk—April 10, 1974.

Joint Cardiac Symposium for Physicians—Sponsored by Heart Association of Northern Virginia—Marriott Twin Bridges Motor Hotel—Arlington—April 17, 1974.

National Conference on Rural Health—Sponsored by AMA—Detroit-Hilton Hotel—Detroit, Michigan—April 25-26, 1974.

New Members.

The following new members were received into The Medical Society of Virginia during the month of November:

Marieta Agawin Bajit, M.D., Norfolk
John W. Barnard, M.D., Portsmouth
Harry Bernstein, M.D., Farmville
Terrell Davis Blanton, M.D., Portsmouth
Barry Hyer, M.D., Falls Church
Ramon R. Erasmo, M.D., Danville
Harold Donald Gabel, M.D., Richmond
Mi Yong Ki, M.D., Fairfax
Remo Andrea Lotano, M.D., Lynchburg
John J. McMahon, M.D., Norfolk
John Hope Moorman, Jr., M.D., Martinsville
Kyl Soo Anne Ninneman, M.D., Norfolk
Leo D. Pepa, M.D., Salem
Robert Remuzzi, M.D., Leesburg
James D. Rice, M.D., Roanoke
Richard R. Rosenthal, M.M., Baltimore, Maryland
Harvey Allan Rubenstein, M.D., Wheaton, Maryland
Parviz M. Sadjadi, M.D., Clifton Forge
Drago D. Smokvina, M.D., Washington, D. C.
William Rue Steffey, M.D., Newport News
Walter R. Wallingford, M.D., Newport News
Louis Leslie Wasserman, M.D., Virginia Beach
Judy W. Wood, M.D., Richmond

Alexandria Medical Society.

New officers for 1974 are: President, Dr. Ira J. Green; president-elect, Dr. H. Glenn Thompson; vice-president, Dr. Robert Meloni; secretary, Dr. Samuel Sawmiller, and treasurer, Dr. Eugene Jacobs.

Newport News Medical Society.

The following officers have been elected for 1974: President, Dr. Thomas W. Payne; vice-president, Dr. Thomas A. Wash, and secretary-treasurer, Dr. Roland G. Garrett, Jr.

Richmond Academy of Medicine.

Dr. W. Robert Irby has been installed as president, succeeding Dr. Emmett C. Mathews. Other officers are: president-elect, Dr. Carolyn M. McCue; vice-presidents, Drs. William W. Martin, Jr., and J. Edward Hill, and recording secretary, Dr. Percy Wootton. Dr. Mathews is chairman of the board with Drs. Custis L. Coleman, Robert Edgar Mitchell, Jr., and Warren H. Pearse as the other members.

Rockingham County Medical Society.

Officers for 1974 are: President, Dr. R. M. McDonald; vice-president, Dr. L. D. Burtner; secretary, Dr. Walter M. Zirkle, and treasurer, Dr. R. C. Kohring. All are from Harrisonburg.

Tri-County Medical Society.

New officers for this Society are: President, Dr. Robert G. Edwards, Franklin; vice-president, Dr. Richard Baylor, Suffolk; and secretary-treasurer (re-elected), Dr. Craig A. Ryder, Suffolk.

Dr. Robert M. Blizzard

Has been named chairman of the department of pediatrics at the University of Virginia School of Medicine. He joined the faculty as chairman and Benjamin Armistead Shepherd Professor on January 1. Dr. Blizzard has been acting chairman of the department of pediatrics at The Johns Hopkins University School of Medicine and director of the Pediatric Endocrine Clinic at The Johns Hopkins Hospital.

Self-Help and Preventive Medicine.

The Georgetown University Community Health Plan, Inc., and the Department of Community Medicine and International Health has formed the Georgetown Health Maintenance Education Unit and the 1974 Course for The Activated Patient. Dr. Robert R. Huntley is president of GUCHP and chairman of the department and Dr. Keith W. Sehnert, Reston, is director of the unit. The weekly

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WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands, no abnormalities of thyroid function studies are known to occur.

USUAL DOSAGE: Adults – 600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, "Rondomycin" (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of "Rondomycin" (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

Children – 3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: "Rondomycin" (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71

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The Weight of Professional Opinion

It's time for action to defend the laws and regulations that protect your patients against drug substitution.

These professional and trade organizations are united in supporting antisubstitution statutes and regulations:

The American Academy of Dermatology

The Board of Directors of the American Academy of Family Physicians

The Executive Board of the American Academy of Neurology

The Committee on Drugs of the American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the American College of Obstetricians and Gynecologists

The Board of Regents of the American College of Physicians

The Board of Trustees of the American Dental Association

The Board of Trustees of the American Medical Association

The American Psychiatric Association

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage interprofessional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

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The course is designed for classroom and home study of common health problems emphasizing self-help and preventive medical techniques that have saved many past registrants money and time in their own and their family's health care.

The Norfolk General Hospital,

Division of Medical Center Hospitals, will hold its 8th annual continuing education medical symposium, March 1-2.

The first session will include presentation and judging of resident's papers. Among those to be presented are: Prophylactic Use of Keflin in Cesarean Section by J. Floyd Clinginpeel, M.D.; Prunebelly Syndrome (Anterior Muscular Deficiency) by Aminuddin Rathore, M.D., and Comparison of Congenital Dislocated Hip Treated Operatively with Congenital Dislocated Hip Treated Closed in the Children's Hospital of the King's Daughters. Another discussion will be on Parathyroid Disease and the participants will be Drs. John W. Lloyd, II, Eastern Virginia Medical School; Vernon Smith, Medical College of Virginia; and Claiborne W. Fitchett, Eastern Virginia Medical School. Acute Urinary Tract Infection discussions follow with the participants being Dr. Robert K. Rhamy, Vanderbilt University School of Medicine; Drs. Desmond R. H. Gourley, Donald J. Merchant, Robert McCombs, and William V. Tynes, II, from the Eastern Virginia Medical School. Another subject for discussion is The Female with Chronic Urinary Complaints and will be participated in by Drs. Paul J. Fink, Eastern Virginia Medical School; Ralph R. Landes, Danville; Stuart Howard, University of Virginia; and Mason C. Andrews, Eastern Virginia Medical School.

Following lunch, the discussions will be on Pediatric Urological Problems and will be participated in by Drs. Warren W. Koontz, Medical College of Virginia; Gerald Holman, Calgary University Hospital, Canada; and Drs. John F. Stecker, Jr., Patrick C. Devine, George A. Harkins, James E. Etheridge, Jr., and Harry J. Presberg from the Norfolk General Hospital and Eastern Virginia Medical School.

On Saturday morning, the subject will be Adrenal Disease with Drs. Richard F. Sparks, Harvard University, and Arthur Wyker, University of Virginia, as the discussants. Following this the subject will be Hypertension with the following participants: Carlos R. Ayers, M.D., University of Virginia; E. Darracott Vaughan, M.D., University of Virginia; and Eugene F. Poutasse, M.D., Eastern Virginia Medical School.

Cocktails and dinner will be on Friday evening and there will be an address by Congressman G. William Whitehurst, 2nd Congressional District of Virginia.

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Contact Stanley B. Kamm, Administrator, Shenandoah County Memorial Hospital, Woodstock, Virginia 22664. Phone 703-459-2131. (*Adv.*)

Obituary . . .

Dr. James Romond Grinels,

Formerly of Richmond, died at his home in Urbanna on December 30. He was seventy years of age and a graduate of the Medical College of Virginia in 1926. Dr. Grinels practiced in Richmond until his retirement in 1965 and was a member of the staffs of Grace Hospital, Retreat for the Sick and Sheltering Arms Hospital. During World War II, he served as Chief of Surgery in the 112th Evacuation Hospital in the European theatre and was discharged with the rank of Lieutenant Colonel. He had been a member of The Medical Society of Virginia for forty-three years.

His wife survives him.

Dr. Edwin Darracott Vaughan,

Richmond, died December 8 at the age of sixty-four. He received his medical degree from the Medical College of Virginia in 1933. Dr. Vaughan served two terms as president of the Richmond Eye and Ear Hospital and on retirement in 1973 became an honorary member of its board of trustees. He had been a member of The Medical Society of Virginia since 1935.

Dr. Vaughan is survived by his wife and a son, Dr. Vaughan, Jr., of Charlottesville.

Dr. Ira Thomas Hornbarger,

Hot Springs, died December 9. He was seventy-seven years of age and graduated from the Medical College of Virginia in 1921. Dr. Hornbarger had practiced in Bath County for more than fifty years and had served as chief of staff of the Bath County Community Hospital. He served for many years on the Bath County School Board, was a former president of the Bath County Historical Society and a member of the Chamber of Commerce. Dr. Hornbarger was a member of The Medical Society of Virginia.

His wife and three daughters survive him.

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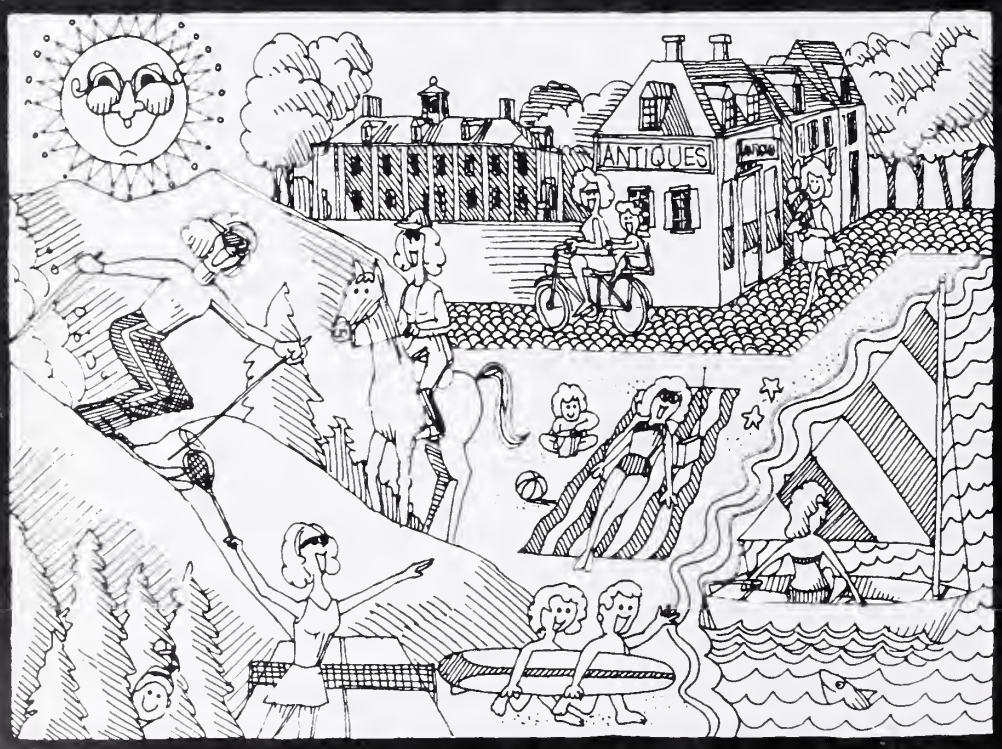

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APR 8 1974

OFFICIAL PUBLICATION
OF THE
MEDICAL SOCIETY
OF VIRGINIA

Virginia Medical Monthly

March, 1974 Volume 101

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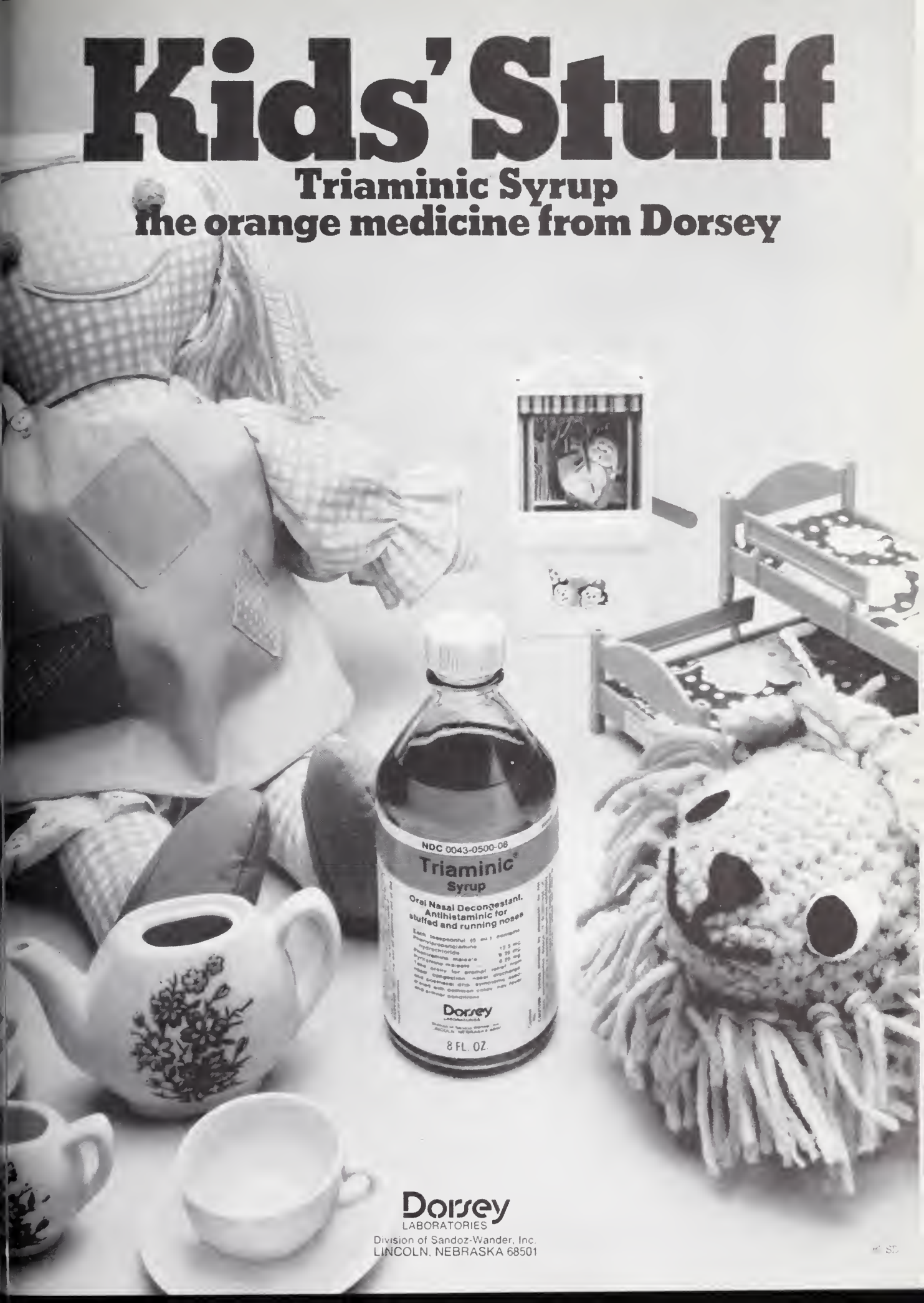

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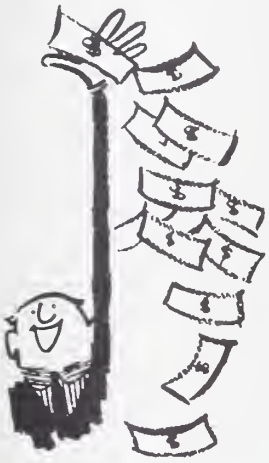

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WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
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USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, "Rondomycin" (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of "Rondomycin" (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
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Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
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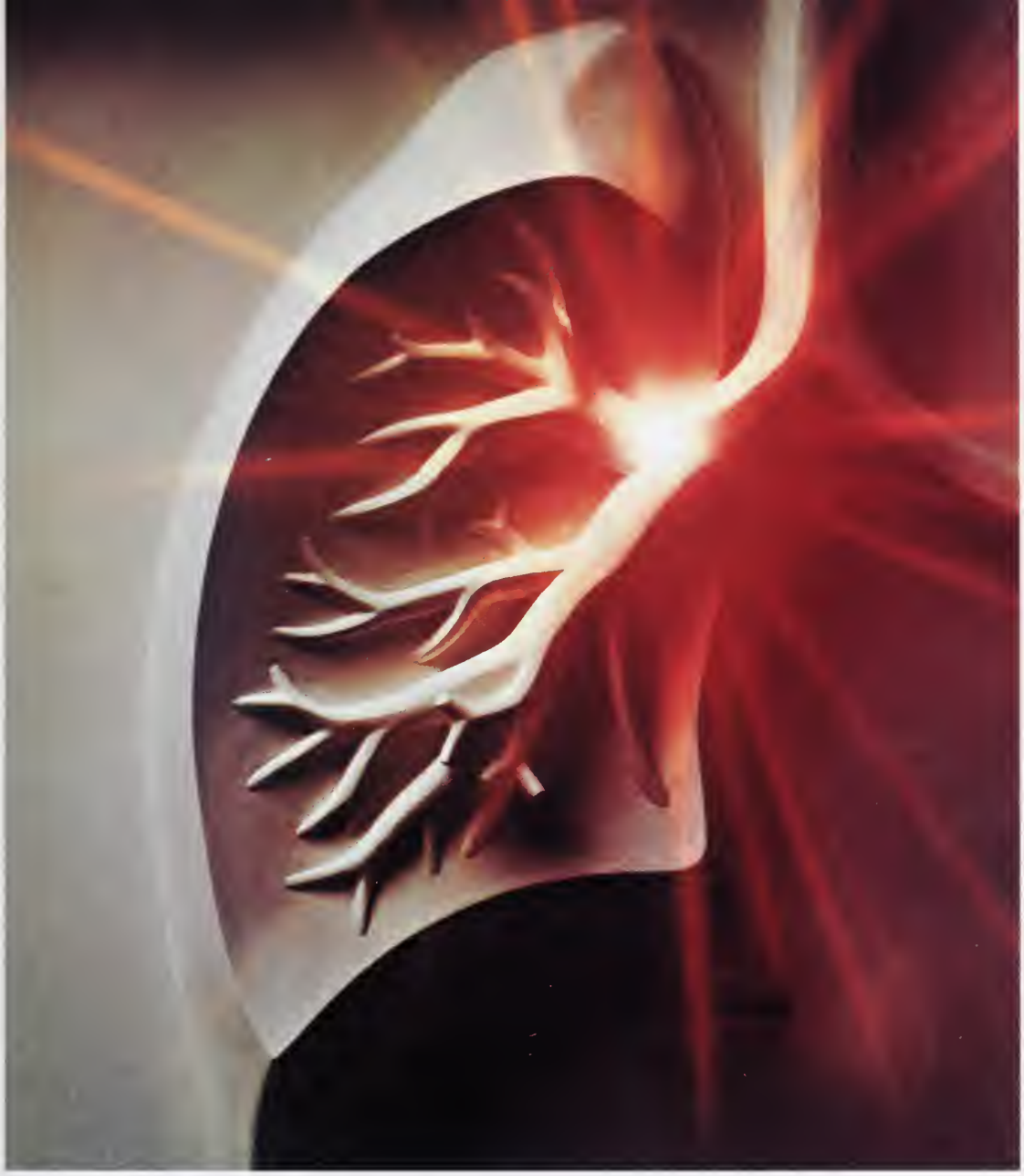

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- The American Academy of Dermatology
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- The Executive Board of the American Academy of Neurology
- The Committee on Drugs of the American Academy of Pediatrics
- The American College of Allergists
- The Executive Committee of the American College of Obstetricians and Gynecologists
- The Board of Regents of the American College of Physicians
- The Board of Trustees of the American Dental Association
- The Board of Trustees of the American Medical Association
- The American Psychiatric Association
- The Executive Committee of the National Association of Retail Druggists
- The Board of Directors of the Pharmaceutical Manufacturers Association
- The National Wholesale Druggists' Association

Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage interprofessional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

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The Virginia
MEDICAL MONTHLY

March, 1974
Vol. 101, No. 3
Whole No. 1462

Guest Editorial . . . .

The Virginia Disability Determination Division

AS CHIEF MEDICAL CONSULTANTS for the Virginia Disability Determination Division, we would like to take this opportunity to express our appreciation to all physicians and allied medical personnel who have assisted us during the past year in furnishing medical reports for patients who apply for social security disability benefits. The timely receipt of these reports has been of vital importance in assuring prompt and proper evaluation of disability claims. More than 44,000 disabled workers and their dependents in this State are now receiving social security benefits. In 1973, a total of more than $9,300,000 helped replace the income lost due to disability.

In this agency, which makes disability determinations on behalf of the Social Security Administration for Virginia residents, the medical evidence in each case is received by a physician. Since the evaluating physician never sees the applicant, he depends heavily on the data supplied by the treating sources. In the majority of our cases, the nature and extent of the claimant's impairment can be determined on the basis of evidence from the records of his treating physicians and hospital records. For this reason we are doubly grateful for the quality of the medical reports furnished us by the physicians of this State.

In January 1974, the Social Security Administration began administering the new Federal program of supplemental security income which provides financial assistance to needy people who are aged, disabled, or blind. State agencies now handling social security disability claims will accept a similar responsibility under the supplemental security income program. With the anticipated increase of State disability determination unit workloads, there will be a need to expand our medical sources to obtain medical reports needed

for adjudication of these new claims. Additionally, under this new program, we will be responsible for the first time for evaluating disability claims filed for children who are under the age of 18. For these reasons it is necessary for us to reach pediatricians as well as other specialists in order to effectively administer the program.

The Virginia Disability Determination Division invites inquiries from physicians interested in serving as medical evaluators or as members of the agency panel of physicians available in their practices to perform special examinations of applicants. Physicians may send correspondence to Disability Determination Division, P. O. Box 1300, Richmond, Virginia 23210, or telephone collect 804-770-7021.

As we leave the year behind and enter a new year of continuing program challenge and opportunity, we want to express to you our personal thanks for your past contributions and request your continued assistance in the future.

M. Jane Page, M.D.
David C. Williams, M.D.

Note: *Dr. Page is Chief Medical Consultant, Disability Insurance Benefits, and Dr. Williams is Chief Medical Consultant, Supplemental Security Income, Virginia Disability Determination Division, Social Security Administration.*

Hodgkin's Disease

A 23-Year Study

EDMUND M. BRODIE, M.D.
SAUL KAY, M.D.
E. RICHARD KING, M.D.
Richmond, Virginia
A. A. CLAIRMONT, M.D.
Atlanta, Georgia

THIS IS A RETROSPECTIVE STUDY of 185 consecutive cases of Hodgkin's Disease seen at the Medical College of Virginia from 1937 through 1960. Only eighty-two cases were available for review. There are no exclusions on the basis of age, sex, race, religion, occupation, concomitant disease, or patient status (staff or private).

The purpose of this paper is to report survival correlated with histologic diagnosis and mode of therapy. This will, at a later date, be compared with a report of cases treated after 1960 by megavoltage radiation therapy. Prior to 1960 the patients in this study were treated with orthovoltage radiation (200 to 400 KEV).

The inherent limitations of a retrospective study, including inadequate reporting and missing records, were reflected in this study. The cases in this study were classified by histopathology only. Staging was not possible due to inadequate clinical information. The original tissues were reviewed and classified according to the Lukes and Butler criteria for Hodgkin's Disease.[1]

From the Divisions of Radiation Therapy and Surgical Pathology, Medical College of Virginia, Richmond, Virginia.

Single reprints may be obtained from Radiation Therapy, Medical College of Virginia, Richmond, Virginia 23298

Supported in part by the following grants:
American Cancer Society Grant # 3020
National Cancer Institute Grant # 9871

Case Material

One hundred eighty-five cases of Hodgkin's Disease were identified at the Medical College of Virginia from 1937 through 1960. Thirty-eight cases were excluded because the original biopsy slides were not available for histologic review, and another four cases were dropped because original records were not available. Forty patients were judged to have insufficient evidence for a diagnosis of lymphoma. Four sets of slides were of too poor quality to evaluate properly. Five patients were diagnosed at autopsy only. Twelve charts lacked necessary information. The remaining eighty-two cases were reviewed. All patients receiving radiation therapy were treated with orthovoltage radiation (200-400 KEV) to a daily dose of 100-200 rads. Dosage calculations were on the skin surface (applied dose). Information was not available for tumor dose estimates. Some patients were treated several times a week; whereas others were treated at less frequent intervals (i.e., several times a month). It was frequently difficult to determine why a given treatment schedule was used since many records were incomplete.

Results and Discussion

Table 1 shows the relationship between the present Lukes-Butler classification and the paragranuloma, granuloma, and sarcoma Jackson-Parker classification (into which the slides were grouped previously). Most cases of all four pathology types were previously grouped together as granuloma. In fact, this group was

originally diagnosed as having 64 granuloma types out of the original 82 patients.

TABLE 1

	Paragranuloma	*Granuloma*	*Sarcoma*	*Total*
Lymphocytic Predominance	8(38%)	13(62%)	–	21(26%)
Nodular Sclerosis	1(4.5%)	19(91%)	1(4.5%)	21(26%)
Mixed Cellularity	–	24(89%)	3(11%)	27(32%)
Lymphocytic Depletion	1(7%)	8(62%)	4(31%)	13(16%)
				82(100%)

Table showing the number of patients in each classification. The numbers in parentheses tell the fraction contributed by that histology to the total group.

The distribution, sex, and race ratio, and mean ages is given in Table 2. Overall there were almost twice as many males as females and twice as many whites as blacks. However, the male-female ratio for lymphocytic predominance was almost four to one and for nodular sclerosis almost one to one. Lymphocytic predominance also had the highest proportion of whites (76%). Mixed cellularity was the most common (32%), and lymphocytic depletion was the least common. All types had a mean age in the mid-thirties. Nodular sclerosis had a peak in the 50-60 range and the 30-40 range. Lymphocytic predominance had a peak in the 50-60 range and 10-20 range. Mixed cellularity had a flat peak in the 30-60 range. Lymphocytic depletion had a few more patients in the 30-40 and 60-70 ranges.

Table 3 contains the presenting sites of the disease. The cervical region was the most common site (43%), whereas supraclavicular and axillary areas were next with 16-17%. For each histology, the cervical region was the most common site. Nodular sclerosis was diagnosed 14% of the time from a mediastinal biopsy at thoracotomy. The mediastinal region was otherwise an uncommon site for diagnosis.

The initial treatment was radiotherapy in most cases (54%). Definite surgical treatment such as radical neck dissection was done in a few patients (10%). After initial therapy a patient may have been retreated with the same modality or may have received a different type of treatment. Chemotherapy was used initially in 22% of cases. Steroids were used for resistant or rapidly progressing cases when chemotherapy had depressed the hemopoietic sys-

TABLE 2

	# of cases	*male*	*female*	*white*	*black*	*mean age*
Lymphocytic Predominance	21(26%)	17(81%)	4(19%)	16(76%)	5(24%)	35.7
Nodular Sclerosis	21(26%)	10(48%)	11(52%)	12(57%)	9(43%)	34.7
Mixed Cellularity	27(32%)	16(59%)	11(41%)	16(59%)	11(41%)	33.7
Lymphocytic Depletion	13(16%)	10(77%)	3(23%)	8(62%)	5(38%)	38.2
Total	82(100%)	53(65%)	29(35%)	52(63%)	30(37%)	

Table showing the distribution according to histology, sex, race, and age. The numbers in parentheses tell the percentages of patients in a given group.

TABLE 3

Region	*Total*	*L.P.*	*N.S.*	*M.C.*	*L.D.*
Cervical	43%	52%	57%	37%	38%
Supraclavicular	15%	10%	14%	15%	15%
Axillary	17%	19%	14%	19%	8%
Inguinal	11%	14%	–	11%	15%
Mediastinal	5%	–	14%	–	8%
Retroperitoneal	3%	5%	–	7%	–
Other	5%	–	–	11%	15%

Table shows the initial sites for biopsy and the percentages for each location.

tem. During the entire management seventy-one percent had radiotherapy, 47% had nitrogen mustard, and 13% had major surgery. Other chemotherapy included chlorambucil, thiotepa, or vinca alkaloids.

As seen in table 4, patients receiving a total dose of 3000-5000 rads generally had the best prognosis. Most patients received 1000-3000 rads (calculated at skin surface).

TABLE 4

Treated Areas	*less than 1000 rads*		*1000-3000 rads*		*3000-5000 rads*	
	1 year	*5 years*	*1 year*	*5 years*	*1 year*	*5 years*
Cervical	40%	20%	73%	35%	100%	60%
Mediastinal	50%	12%	73%	40%	100%	33%
Cervical & Mediastinal	57%	27%	73%	40%	88%	47%

Table shows survival rates based on dose given. Rads are calculated at the skin surface.

Table 5 shows the survival figures according to histology with lymphocytic predominance having the best prognosis (52% at five years if one ignores untraced patients) and lymphocytic depletion the worst. (By "untraced" patients one means persons lost to follow-up who may or may not have died. The true survival is somewhere between the two figures.)

TABLE 5

	1 Year	*5 Years*
Lymphocytic Predominance	72%(86)%	33%(52)%
Nodular Sclerosis	81%(91)%	38%(48)%
Mixed Cellularity	59%(70)%	19%(30)%
Lymphocytic Depletion	38%(38)%	15%(15)%

Table shows percent survival. Numbers in parentheses are based on omission of untraced patients.

Comparison with the Literature

The American Cancer Society estimates that in 1973 there will be 4800 new cases of Hodgkin's Disease with 2100 males and 2200 females.[4] For an unknown reason, the cases reported here had a higher male segment. Ackerman and del Regato report the peak age incidence to be between 35 and 55 and a slightly higher incidence in whites.[1] The peak in our series was in the mid 30's. The white-black ratio in our paper reflects the total area from which MCV draws its population.[5] Although the city itself has a high black/white ratio, the surrounding counties have more whites producing an overall white/black ratio of about 2.8:1. In one series of 231 patients, 32 had lymphocytic predominance, 89 had nodular sclerosis, 90 had mixed cellularity, and 20 had lymphocytic depletion.[1] Our series had a higher ratio of lymphocytic predominance and lymphocytic depletion. Published five year survival figures for Stage I and Stage II patients are in the 85-90% range with overall figures of 65-75%.[3] Our figures are much lower, the reason for which is probably inadequate treatment using lower dosage with low energy equipment treating less than total nodal fields.

As one approaches 4000 rads, the recurrence rate drops to 4.4% (60% at 1000 rads, 35% at 2000 rads, and 18% at 3000 rads).[1] Our figures reflect the better survival at higher doses. Ackerman reports that 37.5% of the biopsy sites were left cervical, 20.8% were right cervical, 6.7% were mediastinal and 6.5% were axillary.[1] Most of our biopsy sites were cervical.

In reviewing our cases, several were found to have changed their histology over the years. The initial biopsy might show mixed cellularity, and one several years later would show lymphocytic depletion.

In 1970 composite survival curves for all stages were reported using representative studies from three therapeutic eras. In 1960 untreated patients had a 35% one year survival and a 5.8% five year survival. Prior to 1960 200 KEV x-rays gave a 70% one year survival and a 36% five year survival if high doses were used. Review in 1970 of cases using six MEV x-rays, one obtained a 95% one year and 73.3% five year survival.[2] Our results are comparable to the 1960 orthovoltage study.

Summary

Between 1937 and 1960, 185 patients with Hodgkin's Disease were seen at M.C.V. In 1972, 82 of the cases were evaluated for histology, survival, site of diagnostic biopsy, and applied radiation dose. The cases were studied using the newer pathologic classification of Lukes-Butler (lymphocytic predominance, nodular sclerosis, mixed cellularity, and lymphocytic depletion). Lymphocytic predominance had the best prognosis and lymphocytic depletion had the worst. Mixed cellularity was the most frequent pathology. The average age was in the mid-thirties. There were twice as many males as females and twice as many whites as blacks.

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Box 94
Medical College of Virginia
Richmond, Virginia 23298

LET'S REMINISCE!

Women Nurses in the Army.

A bill providing for the employment of graduated women nurses in the hospital service of the United States Army has been introduced in both houses of Congress. The bill provides "that women nurses in the proportion of not more than 10 per cent. of the sick and wounded in general and post hospitals of fifty beds and upward, shall be employed by and constitute the woman's nursing service of the medical department of the Army. * * * * that they shall receive $40 a month when on duty within the limits of the United States, and $50 a month when on duty outside of the limits of the United States." The bill further provides that nothing in its terms shall be construed to limit the power of the Secretary of War in time of war or national disaster to avail himself of duly qualified Red Cross nurses or nurses of other worthy societies or associations.—*Med. News*, Feb. 10, 1900.

(Virginia Medical Semi-Monthly, Vol. 4, February 9, 1900)

Do the Terms Australia Antigen (Au_1) Hepatitis Associated Antigen (HAA) and HB Ag Indicate Ignorance or Progress?

Australia antigen or HB Ag?: A Review

DONALD M. SWITZ, M.D.
Richmond, Virginia

Over the past few years there has been progress in the understanding of the etiology of hepatitis. HB Ag testing now offers many advantages. It is hoped that better treatment techniques will follow.

THESE VARYING TERMS have been much discussed in the lay and medical press over the past few years. The main reason for reviewing the current state of events is that we see at least 60,000 cases of hepatitis in the United States and 1,500 in Virginia this year, an incidence 30/100,000 population. Of these 60,000 cases, about 10,000 will be "serum" hepatitis. An understanding of the place of the hepatitis-associated antigen will assist the diagnosis and therapy of this common condition.

It is important to be certain of the indications for the limitations of Au_1, HAA or HB Ag testing. This is not totally a dreary academic exercise; the diagnosis of Au_1 or HB Ag positive hepatitis is important for the individual, physician, family, peers and hospital personnel.

From the Division of Gastroenterology, Department of Medicine, Medical College of Virginia, Health Sciences Division, Virginia Commonwealth University.

Where did the antigen with so many names come from? It is the outgrowth of interest of Dr. Blumberg in abnormal proteins. In 1963[1] he was studying various sera by comparing them with blood samples taken from hemophiliacs. He reasoned that hemophiliacs would have multiple antibodies to foreign proteins due to their many transfusions. Among his panel sera were some from Australia; one from an aborigine. Precipitin bands were seen between the aboriginal sample and hemophiliac sera. Blumberg named this finding the Australia antigen and, because there were more than one, they were numbered. The one in which there is so much interest was called Au_1.

Then began the search for the presence of this antigen elsewhere. It was found in patients with Down's syndrome, leprosy and leukemia. Later it was found that Down's syndrome patients living at home were free of the antigen; those in hospitals were carriers. By 1966 it was beginning to be recognized that this protein antigen was present in up to 20% of unselected sera from hepatitis patients.

The role of Au_1 became clearer when Prince,[2] working in the New York Blood Bank Center, noted the presence of the antigen in up to 80% of patients with "post-transfusion" hepatitis and chose the term "SH" antigen to conform to the association with serum hepatitis.

By 1969 many workers were beginning to realize that the Australia antigen was primarily associated with hepatitis in some manner and the term hepatitis-associated antigen (HAA)

began to appear. Although a spate of articles reported the association between the antigen and hepatitis, it was not clear why the presence of the antigen overlapped the clinical separation of infectious or serum hepatitis.

Giles and Krugman,[3] whose studies at Willowbrook have given us great insight into the epidemiology and transmission of hepatitis as well as generating a great deal of controversy, were able to resolve the confusion over the relationship of HAA with one form of hepatitis. They had defined two clearly separated types of hepatitis at their institution by giving infectious sera to well children. They noted a short incubation, short duration disease, compatible with the old term "Virus A" disease, or "infectious" hepatitis; this they termed "MS-1", after their serum pool. There was also a separate antigenically distinct illness of long incubation and duration, clinically compatible with "Virus B" disease or "serum" hepatitis, which they called "MS-2". Sera from all these patients had been saved and, with the arrival of Au_1 antigen, testing was arranged. In their exciting report they showed that Au_1/SH/HAA was found *only* in patients with Virus B/MS-2/long incubation-duration disease.

The recent term HB Ag (hepatitis B Antigen) refers to the acceptance by all that the antigen originally described by Blumberg seems to be only involved with Virus B or long incubation or serum hepatitis.

Therefore, the time course of the development and increasing specificity of the terms is as follows:

Least specific	Au_1	1963
	S. H. antigen	1968
	H.A.A.	1969
More specific	HB Ag	1971

But the antigen turns out not to be absolutely pure. Le Bouvier has shown that the antigen can be subfractionated into Y (Yale) and D (Dartmouth) subtypes[4]; so far the value of this knowledge is that the specific MS-2 antigen, which is persistent, is a "D" sub-type. The various sub-types may have importance in relation to persistence.

We need to consider the types of various methods available for detecting HB Ag and their sensitives. The initial work was done with Ouchterlony immunodiffusion. Because this takes several days to process, it became clear to blood-bankers that speed needed to be added, if not sensitivity. This step was taken by Prince with the introduction of immunoelectroosmophoresis[5] in which an electrical current is used to enhance development speed. Although this was faster it was still not specific enough. Complement fixation (CF) increased our specificity a little more. But the most important change has come with the development of a very rapid and sensitive radioimmunoassay (RIA) now marketed by Abbott Laboratories[6]; the principles of this method are well discussed by Ginsberg.[7] In sum, the change from immunodiffusion to radioimmunoassay has allowed a many-fold increase in capacity to detect the HB Ag and this has facilitated the explosive growth in knowledge about this protein in the last two years.

What are our current concepts of this particulate protein? There is debate about whether it is a virus. It seems to be infective, transmissible and visible by electron microscopy as well as localizable by immunofluorescence in cells that should be "infected". There are several different forms of antigen seen under the electron microscope but we will focus on the Dane particle.[8] This is a 42 nm. diameter particle having an outer coat that can be peeled off. The coat reacts with hepatitis B antibody specifically and is primarily found and made in the cytoplasm of infected cells. Another smaller particle, 23-27 nm. diameter, is found in the nucleus of infected cells and some workers believe this is the DNA/RNA viral core since it is morphologically similar to small (pico-RNA) viruses.

Probably the biggest problem with the Au_1-HB Ag protein is the mystery of where the DNA/RNA is if this is a virus. No one finds more than 2% nucleoprotein in any antigen preparation, which is extremely unusual for a virus. Moreover, the cytoplasm of infected cells makes enormous amounts of protein coat to cover the core made in the nucleus—at least

1,000 times the greatest amount of protein produced by any other virus. It is some of these curiosities that lead workers and observers to be uncertain whether we are dealing with a virus or whether this is a new and different type of infectious particle, as is suggested by London.[9]

An exciting recent advance has been the observation that it is possible to transmit virus B disease (HB Ag positive) to high primates with the subsequent passage of both disease and detectable protein to other similar primates. Dane and intranuclear particles have been observed in samples of tissue obtained from these animals. This is the first time that a possible animal model for hepatitis has appeared. It is probable that infections have been established before in experiments done years ago but the detection methods for the presence of these infections were too insensitive to allow their proof.

Now that we are reasonably sure that the old Au_1, now HB Ag, is the marker for long incubation-long duration disease (or "serum" hepatitis or virus B disease) and are aware of the increasing sensitivity of the newly developed tests and the relative insensitivity of the older tests, where does that leave us?

Value of HB Ag testing:

1. Testing blood donors seeking possible individuals responsible for "serum" hepatitis, especially professional donors.
2. Identifying an individual with hepatitis who must not give blood again and whose blood is exceptionally infectious.
3. Unraveling a point-source epidemic, as in a dialysis unit.
4. Defining a group with hepatitis that may have a somewhat (10x) greater mortality.[9]
5. Identifying an individual unlikely to transmit his disease by other than the parenteral route who can be removed from stool or other non-needle precautions in the hospital but for whom needle precautions in the hospital become *very* important.
6. Allows better definition of a clinical state without recourse to variable incubation times and history of parenteral injections.
7. May identify a group of carrier individuals at high risk for residual hepatic dysfunction.
8. Identifies a group in whom there is no clearly proven value to gamma globulin prophylaxis for contacts.

Finally, what are some of the pitfalls of testing for HB Ag? First, your local test, if I. D., may be sufficiently insensitive to miss many cases of HB Ag hepatitis, thus giving many false negatives. Second, many of the antigenemias may be quite short-lived (perhaps those to the coat only) and disappear before the onset of clinical jaundice, another cause of false negative tests.

The discovery of Au_1 and our growth of knowledge to the point where we can associate this protein with the coat of a visible particle present in diseased hepatocytes in a specific clinical state and transmit it to primates has led to major strides in our understanding of virus B, long-incubation hepatitis. Blood banking has been profoundly affected as has our view of the epidemiology of virus B, serum hepatitis of old, hepatitis.

The next laboratory step is to gain greater understanding of this unusual DNA/RNA-poor, protein-coat-rich, infectious particle. The next clinical step is to understand how to treat this group more specifically than with our current old-fashioned outdated and disproven "bed rest" recommendations. This is now under way with some major clinical trials.

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Box 908
Medical College of Virginia
Richmond, Virginia 23298

EDUCATION AND THE GIFTED CHILD—Kannan

(*Continued from page* 192)

If most teachers were made aware of the special abilities and differential learning needs of gifted students, their attitudes and expectations toward these children would probably improve greatly. This would be a beginning step toward helping this neglected group of students.

NOTE: A list of references may be obtained from the authors.

3603 Grove Avenue
Richmond, Virginia 23221

Education and the Gifted Child

JACQUELYN P. KANNAN
MICKAEL M. KANNAN, M.D.
Richmond, Virginia

Maximum development of gifted children should be among the primary objectives of our system of public education for when these children become adults, they will be the gifted ones who will save our civilization.

There have been no meaningful, enduring provisions for their education, however. The culturally deprived, slow readers, and other classes have received special attention but the gifted children remain a neglected group.

THE "GIFTED CHILD" has been identified and defined in various ways in the United States. In the early part of this century, gifted children were identified by "teacher nomination". (Gallagher, 1964, p. 5) Later, I. Q. tests became the chief way of identifying superior children. Sometimes the criterion used was a minimum I. Q. score, which varied from 110 upward. (Sanders, 1961, p. 20)

The trend today is toward a broader definition of giftedness and toward the use of several methods of identification rather than just one. These methods include achievement tests, individual and group intelligence tests, teacher observations, "creativity" tests, parent observation, and personality tests. (Gallagher, 1964, p. 21; Sanders, 1961, p. 31-39)

A very general definition of giftedness is "consistent excellence in any field of human endeavor." (Gallagher, 1964, p. 5; Barbe, 1963, p. 31; Sanders, 1961, p. 21) This definition is too broad to be of much use as an operational definition for a specific school program. On the other hand it has the advantage of including those with a variety of talents, rather than being limited to the intellectually gifted.

One important area that I. Q. tests cannot measure is "creativity" or divergent thinking. E. P. Torrance, J. W. Getzels, and P. W. Jackson have all done studies on creativity and intelligence. (Gallagher, 1964, p. 43-44; Barbe, 1963, p. 33)

The rationale for using several methods in identifying gifted children lies in the fact that any one type of measure is not totally effective. (Gallagher, 1964, p. 9) By using a combination of means the risk of missing some of the gifted is decreased. This is especially important for the culturally deprived, the academic underachievers, and the creatively gifted, who are often excluded from programs for the gifted when only I. Q. scores are considered.

Plato observed that "the state's gifted leaders are its most valuable asset. They are the ones who make economic and social progress possible." (Hildreth, 1966, p. 1) "Leaders" or outstanding individuals in a society are those people who possess talents that are valued by and valuable to the society. Whatever talents are culturally valued will be sought out and encouraged to develop. For instance, in Europe in the eighteenth and nineteenth centuries, "there were a remarkable number of child prodigies in the area of music." (Gallagher, 1964, p. 77) Did the social climate "create" the talented musicians? It is far more likely that the potential talent was in existence and developed because it was valued and fostered by the society.

KANNAN, MICKAEL M., M.D., *Assistant Professor of Clinical Pediatrics, Medical College of Virginia.*

There is a great need for a variety of talents in the United States today. Intellectual skills have been emphasized because of the increasing technology in our country and the competition from communist countries. The launching of Sputnik led to a renewed interest in the academically talented in our schools. (Tannenbaum, 1972, p. 16) But this emphasis was relatively narrow and concentrated mainly on the scientific fields. The talented were viewed almost as "weapons" in the cold war.

With the civil rights movement in the sixties, educational attention shifted away from the gifted and became focused on the culturally deprived, the economically disadvantaged and the mentally retarded. The basis for educational programs for these groups was the concept of appropriate education. "Education is appropriate when it is suited to the needs of the individual student." (Marland, Oct. 1972, p. 17)

"Providing for individual differences among children has been a primary concern of educators for many years." (Sanders, 1961) Sidney P. Marland, Jr., who is the United States Commissioner of Education, states (Oct. 1972, p. 17) that "As an idea this is not new, but as a national goal it is just emerging in the public consciousness." There is widespread public pressure for, and support of, special education for special children. This kind of differential education is accepted as a democratic procedure and is recognized as fulfilling broad societal needs.

As our society becomes increasingly efficient in meeting the material needs of its people through technological advances, there will be more leisure time for larger numbers of people. Possible implications of increased leisure are greater interests in art, music, sports, theatre and literature. Individuals who excel in these fields will be in great demand. Their talents will be valued more than they are at present. We need to begin now to encourage outstanding abilities of all types.

The need to develop intellectual talent is especially pressing in the United States at the present. There is greater demand for people with high levels of education and specialized skills. There is a decreasing need for unskilled and semi-skilled workers. In view of this, we need to seek out and properly educate students with the potential for mastering advanced concepts.

It is not just for the benefit of society that we must identify and properly educate the brighter child. "The able child—as well as the handicapped child—has a right to expect from his society opportunities for self-actualization." (Sanders, 1961, pp. 8-9) It is our duty to help gifted students achieve their intellectual potential.

There is evidence that by failing to provide special education programs for the gifted, we are causing them to "experience serious frustration and even psychological damage." (Marland, 1971) A thirteen year old gifted student wrote "the pressure of conformity does strange things to the individual thinker." (Merritt, 1972, p. 79) Classic symptoms are tiredness, nonattention, chronic boredom, a tendency to daydream, and worse yet, truancy. (Merritt, 1972, p. 79) He also said that one of his main problems was the lack of challenge in his school work. Terman believed that very bright students in regular classrooms might develop habits of laziness because they weren't challenged. (Hildreth, 1966, p. 276)

The mother of a gifted girl relates how her child went from exuberance at the thought of going to school to daily tears of despair by the third grade. In the sixth grade she was labeled as retarded or brain damaged because by that point she had just stopped performing in school. In the seventh grade her teachers became frustrated with her because she "delighted in working compound trigonometry fractions but did not do simple fraction homework unless severely disciplined." (Burns, 1972, p. 33-34)

Some teachers feel threatened by a child who knows a lot or who asks difficult questions. (Martinson, 1972, p. 47)

Torrance (1972, p. 27) found that creatively gifted children are often considered behavior problems and diagnosed as having learn-

ing disabilities. He has suggested that they be designated as a new category of handicapped learners.

Vast numbers of the most talented or gifted students are not fulfilling their potential. "Of the brightest ten percent of American children . . . 55% of boys and 40% of girls graduate from college." (Burt, 1962, p. 53)

A conservative estimate of the total number of gifted and talented children in the United States school population ranges between 1.5 and 2.5 million. (Marland, Feb. 1972, p. 12) Yet fewer than 80,000 of them are now receiving appropriate education. Three-fourths of all gifted children receiving special education are located in the only 10 states which have a full-time person responsible for gifted and talented education. (Marland, Oct. 1972, p. 18)

According to Marland (Oct. 1972, p. 17), "Research confirms what many of us have always realized that the gifted group draws its members from all the other categories of children we now recognize".

Of all the groups of children with special learning needs, the most neglected group has been the gifted and talented. (Martinson, 1972, p. 46) "Despite some 50 years of literature on the gifted and extensive research on their educational needs, few meaningful provisions are made for them." (Martinson, 1972, p. 46)

Several objections to special programs for the gifted are based on false assumptions. The major fallacy is the belief that the gifted get along very well within the regular educational system and therefore don't need extra help. Even those gifted students who don't seem to be harmed by the educational system are being deprived of a chance to develop their full potentials. They are also being denied any real sense of achievement or accomplishment because they can learn what is necessary with relatively little effort.

The excuse that education of the disadvantaged should take priority over that of the gifted assumes that the two groups are entirely separate when in fact they overlap. (Marland, Oct. 1972, p. 17)

Other objections commonly raised are more concerned with various administrative practices which have been used in providing programs for the gifted students. Basically these practices fall into three categories—acceleration, ability grouping and enrichment.

Acceleration includes grade skipping and early entrance to kindergarten or first grade. The chief objection to this practice is the social adjustment problem for the accelerated student. Hildreth (1966, pp. 284, 292) cites studies which indicate that a limited amount of acceleration is not harmful and in many cases is beneficial to the gifted student.

The usual complaints about ability grouping and special classes are related to snobbishness or elitism that the gifted may develop as a result of being separated. In her work at Hunter College Elementary School, Hildreth (1952, p. 258) found that the children were seldom aware of their own giftedness and showed "humility and respect for others' accomplishments." Gallagher (1964, pp. 84-85) points out that grouping should be accompanied by curriculum changes if it is to be effective in providing for gifted students. Ability grouping is sometimes used as a practice because it is more convenient to teach children of similar ability than to teach those of diverse ability. (Hildreth, 1966, p. 320) The practice can be used without a program to provide for the gifted.

Enrichment, which usually occurs within the regular classroom, is the least controversial type of practice. (Nissen, 1972, p. 88; Sanders, 1961, p. 72) Unfortunately it is also the least effective. (Nissen, 1972, p. 88) One reason may be "that enrichment is neither understood . . . nor actually put into practice in many classroom situations." (Barbe, 1963, p. 36) If a gifted child finishes his arithmetic early and the teacher gives him more problems of the same kind, only more difficult, that is not enrichment.

These practices "offer substantial and promising evidence of differential education for the gifted." (Nissen, 1972, p. 87) The evidence for this comes from case studies of gifted programs which are currently operating in California, Georgia, Illinois and Connecticut.

These studies are part of Marland's 1971 report *Education of the Gifted and Talented.* (Nissen, 1972, p. 82)

"Studies show that the gifted children in our schools today are locked in by structural and administrative restrictions that inhibit their development." (Marland, Oct. 1972, p. 19) "Schools that provide adequately for the gifted . . . are those in which educational plans are based on the actual needs and interests of the pupil, in which freedom from the restrictions of structured requirements and schedules are (*sic*) possible . . . and in which suitable teachers are engaged . . ." (Marland, Feb. 1972, p. 13)

Suitable teachers for gifted children have been characterized (by numerous authors in lists of varying length) as such paragons of virtue that it is unlikely that any ten persons could embody all the favorable attributes needed. The essential characteristics seem to be knowledge of gifted children's learning needs and "the self-confidence of a person who knows his work well." (Gallagher, 1964, p. 289) Basically, any good teacher can be effective teaching the gifted with some additional methodological training. (Gallagher, 1964, p. 285) This pedagogical training could be minimal, as with in-service programs, or it could involve up to several years of post-graduate study.

In setting up programs to provide appropriate education for gifted students, the particular practices used and the amount of training for teachers will be determined to a great extent by physical or environmental factors. These factors include the size of the school or school system, whether the environment is rural, urban or suburban, the size of the gifted population in the system, and the amount of money available. It would be obviously unrealistic to try to set up entirely separate classes with specially trained teachers in a poor rural county with a small number of gifted children who are widely scattered.

Commissioner Marland emphasizes "Educators can do so much for so very little with able children simply by freeing them under teachers who recognize and respect them." (Feb. 1972, p. 12) He also stresses early identification of gifted and talented children. The early identification is essential, even in the absence of special educational programs. The work of Rosenthal and Jacobsen (1968) demonstrates the importance of teacher expectations in the academic achievement of students. Those who were expected to "spurt" or improve achieved greater gains on I. Q. and achievement tests than those who were not expected to do better. Students in the first and second grades who were expected to do better showed the most significant gains of all. These studies indicate that early and proper identification of gifted students is necessary. If gifted students become frustrated and bored by the classroom situation, the probability is increased that they will be perceived by teachers as disturbed, retarded, lazy or brain damaged. Once an inappropriate label has been applied, it can greatly influence the child's further development and achievement.

Twenty years ago, children who had difficulties in learning to read were considered to be "slow". Today, most teachers recognize that "slow readers" may have cognitive or perceptive defects which cause difficulties in reading. But they are also aware that many of these students are average or above average in intelligence, even though they may need special teaching in reading.

If as much attention is focused upon gifted students as has been focused on slow readers or culturally deprived students, we can probably expect better results than in the past.

While gifted children have been studied and sporadically focused upon, no meaningful enduring provisions have been made for their education. If the philosophy of education in the United States posits a commitment to appropriate education for all students, then differential education for the gifted student should ensue. Even without ideal environmental conditions and comprehensive programs American educators should strive to identify and make some (however minimal) provisions for the gifted.

(*Continued on page* 188)

Nocardial Mycetoma

KENNETH E. GREER, M.D.
Charlottesville, Virginia

A patient with mycetoma due to Nocardia asteroides **is presented. The patient is unusual in that he had an apparent cure with only two months of oral sulfadiazine therapy.**

MYCETOMA (maduromycosis or Madura foot) is an uncommon entity in the United States where it is caused predominantly by two main groups of organisms, the true fungi and species of *Nocardia*. Most cases in the United States have been due to *Nocardia* species and have occurred in the subtropical climate of the Southwest in black manual laborers who work outdoors.[1] The response to treatment varies according to the type of organism causing the infection and with the duration of the infection before treatment is begun. The following patient is the second reported case to be diagnosed in Virginia and is of special interest because of an apparent cure after only two months of therapy.[2]

Report of Case

The patient, a 22 year old black manual laborer, suffered a .22 calibre gunshot wound in his right foot while unloading cargo from a ship in Georgia in 1961. The bullet was surgically removed the next day, and he had no difficulty until four years later when he began developing nodules and discharging sinus tracts on the lateral aspect of his right foot. New lesions continued to appear at the rate of three or four a year while some of the older ones became quiescent, but he was able to continue his job until 1971. At that time, he was forced to stop working due to pain on ambulation on the swollen and draining foot. He developed similar lesions in the right popliteal fossa and enlarged lymph nodes in his groin. He moved to Virginia and was evaluated by several physicians who treated him with two different antibiotics (not identified) without improvement. A biopsy from a right popliteal lesion was reportedly non-diagnostic.

His general health had always been excellent except for a history of treated primary syphilis in 1968. He worked outdoors unloading foreign ships, often barefoot, but he had never traveled outside the United States.

Physical examination in December, 1971, revealed an extremely muscular healthy-appearing young black male with abnormalities limited to the right lower extremity including the foot. The foot was markedly swollen, and there were multiple nodules and discharging sinus tracts on the lateral aspect of the foot

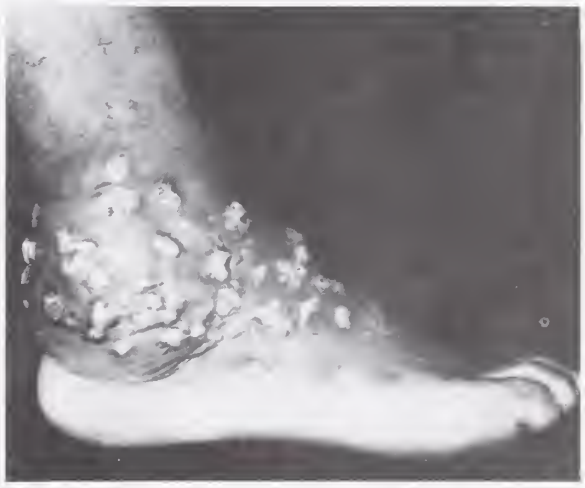

Fig. 1. Lateral view of left foot revealing tumefaction and nodules characteristic of mycetoma.

and ankle (Fig. 1). There were fewer but similar lesions in the right popliteal fossa, as well as enlarged inguinal nodes, which were not discharging. No granules or hyphae could be seen grossly or microscopically in the serosanguinous exudate from the lesions.

X-rays of the foot, including laminograms, revealed no radiographic evidence of bony involvement. Biopsies were taken from the foot and popliteal fossa for histopathological evaluation and culture. No granules or organisms were seen in either specimen despite special stains (H & E, silver methenamine, Brown Hopps, and acid-fast). The biopsy showed a severe mixed cellular inflammatory infiltrate in the dermis with surrounding granulation tissue and some fibrosis. Bacterial culture grew *Staphylococcus aureus* and fungal cultures grew *Nocardia asteroides*.

The patient was treated with Sulfadiazine, 6.0 grams a day in divided dosage. After one month of therapy, the foot had improved considerably. No new lesions had developed, the drainage had stopped, and the swelling had diminished approximately 50% He took the sulfadiazine for a second month, but left Virginia and was presumably lost to follow-up.

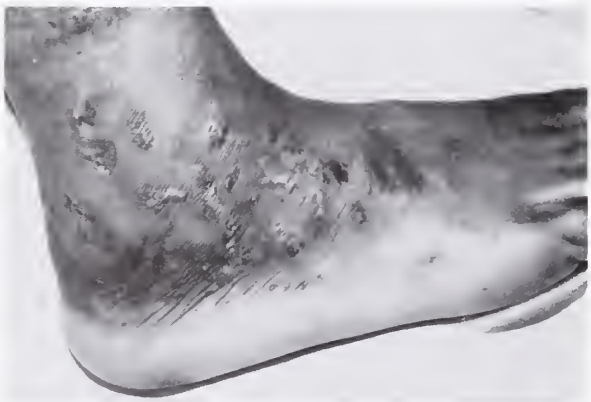

Fig. 2. Same view as Figure 1 six months after completion of a sixty day course of sulfadiazine.

He returned seven months later with complete healing of the foot and popliteal areas (Fig. 2).

Comment

Mycetoma is a non-contagious, localized, chronic infection characterized by tumefaction, sinus tracts, and a serosanguinous discharge sometimes containing grains. It presumably occurs through the traumatic inoculation of fungal or actinomycetic organisms. The majority of infections occur on the foot and predominantly in males who work outdoors. The geographical distribution shows that the disease occurs most commonly in areas with a tropical, and less commonly, subtropical climate. The etiologic agent of mycetoma can be one of at least fifteen different organisms, but the *Nocardia* species have been responsible for over fifty percent of the cases reported in the United States and Mexico.[3] These organisms are saprophytic, partially acid fast, and found in the soil. They are distinguished from most of the other causative organisms by their thin delicate hyphal-like structure and the tendency to poor grain formation. The frequent absence of grains makes a specific diagnosis of mycetoma difficult without biopsy or fungal culture, though the clinical appearance is usually rather characteristic. The delicate *Nocardia* organisms can usually be seen in histopathological sections with special stains, but presumably are too fragile for solid grain formation.

Typically, patients with mycetoma are healthy and asymptomatic and often do not seek medical advice for years after the tumefaction, nodularity, and sinus tract formation begin. The infection usually remains fairly well confined, though bony and tendon invasion are common. Lymphadenopathy is not unusual but hematogenous dissemination probably does not occur.

Successful treatment of mycetoma depends upon specific identification of the organism and the early initiation of the appropriate therapeutic agent. The strongest point to be made about differentiating mycetoma due to true fungi from that caused by species of Actinomycetaceae is that those due to the latter respond much better to chemotherapeutic agents. Amputation is some times the only effective treatment for mycetomas due to true fungi, but, as in this case report, sulfa drugs can be curative in the mycetomas due to *Nocardia* species. Sulfadiazine is the drug that has been used most commonly in the past, but other sulfonamides as well as the sulfones are effective. In most instances, chronic cases require long term therapy for eradication of the organism, especially if there is evidence of

bone or tendon invasion. By the time severe changes have occurred, drug therapy, even when combined with extensive surgical debridement, may be futile.

The patient reported here was probably inoculated with *Nocardia asteroides* at the time of the gunshot wound ten years before the diagnosis was made. Since the foot was asymptomatic, though obviously severely involved, the patient did not seek medical help until he was no longer able to walk without support. The probable diagnosis was made from the typical clinical appearance of the foot, as no hyphal elements were ever demonstrated on direct examination of the exudate or from two biopsy specimens, although the exudate and biopsies were cultured on Sabouraud's media and grew *Nocardia asteroides* in two weeks. The patient took a total of sixty days of sulfadiazine and has had an apparent cure. Eight months after initiation of therapy, there was no significant difference in the size of his feet.

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Department of Dermatology
University of Virginia Medical Center
Charlottesville, Virginia 22901

Vigorous Cough to Dislodge Food From Throat

Choking on food is much more common than generally recognized. It sometimes is fatal. What can you do if you inadvertently try to swallow a big chunk of steak and find it stuck in the windpipe? Summon all the air in your lungs for one blasting, vigorous cough, says an article in the November issue of *Archives of Environmental Health*, a publication of the American Medical Association.

Cough right in the middle of the dinner table. Don't stand on ceremony and try to make it to the rest room. There isn't time. The urgent need is to get rid of the object that is blocking the throat. Cough it up in the middle of the table, immediately.

"When you are stoppered like a bottle with a cork in it, you must hack with whatever remaining air you can squeeze from your lungs," says Theodore H. Ingalls, M.D., of Framingham, Mass. "There's no time to make a dash for the washroom."

"And if you have occasion to help another who is choking, don't be afraid to give a good, hard, openhanded slap on the back, right between the shoulder blades. And if it isn't a him, remember that women have equal rights too.

"One of my medical friends did just that to a dignified dowager who had already turned blue. A pea shooting across the room was the dramatic result, and she was not offended at the boorish behavior," says Dr. Ingalls.

Epidermoid Tumor Simulating Lumbar Disc Disease

WILLIAM M. CHADDUCK, M.D.
Martinsville, Virginia

An intraspinal epidermoid cyst, possibly caused by traumatic lumbar puncture, produced the symptoms and the findings in the myelogram usually found in lumbar disc disease. Removal of the cyst produced a cure.

IN PREVIOUS REPORTS we have called attention to a variety of intraspinal lesions which may simulate lumbar disc disease.[1, 2, 3] Coppola[4] has demonstrated additional intraspinal and extraspinal lesions to be considered in the differential diagnosis of sciatica, and Clarke and Fleming[5] have noted the association of disc disease and occult malignancies. The following case report is submitted not only because of its clinical rarity but also to re-emphasize the variety of pathologic processes included in the differential diagnosis of lumbar disc disease. The case is also offered as further evidence of a relationship between intraspinal epidermoid tumors and lumbar punctures.

Report of Case

R.A. (WVU #16-20-61, a 17-year old boy was admitted to West Virginia University Hospital with the chief complaint of pain in the low back and posterior right thigh for more than a year. He had also noted stiffness in his right leg. His pain was not made worse by coughing or sneezing but was increased by changing positions, sitting or walking. He had no paresthesias, sensory loss or bowel or bladder dysfunction. Previous laminectomy and removal of the L5 disc had not relieved his symptoms. The past history included cerebral palsy and petit mal epilepsy. Seven years earlier the patient had had a "traumatic" lumbar puncture done as part of a neurologic diagnostic work-up. The general physical examination showed stigmata of cerebral palsy. Examination of the back showed paraspinal muscle tenderness, and straight leg raising on the right produced sciatic pain at 30 degrees. There was slight weakness of dorsiflexion of the right foot but no sensory abnormality could be elicited. The deep tendon reflexes were diminished in the lower extremities but were symmetrically active. Routine laboratory studies included a normal hemogram and urinalysis. Calcium and phosphorus determinations were normal, and alkaline phosphatase activity was increased as expected with the age of the patient. Radiographs of the lumbar spine

Fig. 1. Postero-anterior view of lumbar myelogram shows a defect consistent with a laterally herniated fifth lumbar disc. The defect was produced by an intraspinal epidermoid cyst.

showed no significant abnormalities, but a lumbar myelogram (Fig. 1) showed a filling defect at L5-S1 on the right consistent with the patient's clinical condition. The defect was identical to that prompting his first lumbar exploration. The patient underwent re-exploration of the lumbar spine at which time the nerve root was thoroughly explored in search of a "missed fragment" but no definite compressive pathology was found. At that point the exploration was considered negative; however, upon opening the dura, a friable encapsulated tumor, approximately one-half centimeter in diameter, was exposed and removed using microdissection. The pathologic diagnosis was epidermoid cyst containing squamous epithelium and cholesterol crystals. The patient made an uneventful recovery with complete relief of his pain.

Discussion

Epidermoid cysts are generally thought to arise from ectodermal elements included in the closure of the neural groove. The cysts tend to lie in the midline and may be associated with defects in closure of either the spine or skin overlying the lesion. The cysts enlarge by keratinization and desquamation of squamous epithelium into the center of the cyst. Although the tumors may enlarge progressively by this mechanism, causing significant spinal cord or cauda equina compression, they are characteristically benign lesions, curable when totally removed. Displacement of skin fragments into the lumbar spinal canal by lumbar puncture has been offered as an alternate theory of origin of epidermoid cysts. Choremis and associates[6] presented six children, treated for tuberculous meningitis with multiple lumbar punctures, all of whom developed lumbar epidermoid tumors from three to seven years afterwards. Blockey and Schorstein[7] presented an additional eight cases of children who were presumed to have intrathecal epidermoid tumors from skin fragments inplanted by lumbar punctures done six to 10 years before they came under observation. In this patient the history of a traumatic lumbar puncture done six years prior to the onset of his symptoms strongly suggests a traumatic etiology of his epidermoid cyst.

Current popular literature is filled with reports of new techniques for the treatment of lumbar pain syndromes. Included are such procedures as injection of Chymopapain[8] to dissolve disc material, avulsion or radiofrequency coagulation of the recurrent nerve of Luschka, acupuncture, and dorsal column stimulation. With attention being focused on these new techniques, some of which are quite controversial, it becomes imperative that physicians not lose sight of the need for accurate diagnosis of patients having sciatic pain problems. It is unusual for patients with bona fide pathologic lesions of the lumbar roots or sciatic nerve not to be cured or remarkably improved by conventional surgical therapy. Thus, failures of conventional therapeutic approaches should be reconsidered both on the basis of incorrect diagnoses as well as on the basis of the failure of the method of treatment. Certainly, non-specific treatment for lumbar pain would not be expected to arrest the growth of an intraspinal tumor which carries with it the potential devastating neurologic deficits caused by its progressive increase in size.

Summary

A case of intraspinal epidermoid cyst simulating lumbar disc disease is presented as an unusual entity, but one which may be added to an increasing list of specific pathologic diagnoses to be included in the differential diagnosis of sciatic pain. Accuracy of diagnosis is imperative especially when popular communicative media are promoting non-specific and often controversial forms of treatment. An etiologic relationship between lumbar puncture and epidermoid tumors is also discussed.

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Suite 102, Medical Center Building
Martinsville, Virginia 24112

Now It's "Flu Monday"

Blue Monday also might be dubbed "Flu Monday". The more education you have the more colds you have. And the less money you have the more colds you have.

Those intriguing findings appear in a study of "Acute Respiratory Illness in an American Community," reported in the January 14 issue of the *Journal of the American Medical Association.* The research, by Arnold S. Monto, M.D., and Betty M. Ullman, PhD, covered 14,600 cases of respiratory illness, in 4,905 residents of Tecumseh, Mich., over a six-year period. The investigators, from the School of Public Health at the University of Michigan, got weekly illness reports by telephone from the families studied.

Disease of the Cervical Spine and Nerve Root Pain

A. R. COPPOLA, M.D.
Newport News, Virginia

Lesions involving the cervical spine, their symptoms, diagnosis, and treatment are discussed.

THE SYNDROME OF ACUTE RUPTURE of the cervical disc with attendant nerve root pain into the shoulder, arm or hand has been well recognized for many years. Even the fact that the syndrome, with associated left anterior chest pain, may mimic myocardial insufficiency or infarction has been well documented in the literature.[1,2] In a patient with known cardiac disease, anginal history, or the acute onset of chest and arm pain the relative significance of each condition may be at times difficult to assess. This is especially so when there occur electrocardiographic changes and concomitant verification of a disc lesion by myelography. In the presence of an acute infarction surgery is usually precluded because of the exceedingly high mortality rate under general anesthesia. One might consider the use of local anesthesia but too few instances of surgical necessity have probably occurred to make any valid statistics available. During the past two decades cervical root pain due to cervical spondylosis[3,4] and osteoarthritic spurring with compression of the nerve root at the foramen has become well known to the neurosurgeon and orthopedist, but the syndrome has remained less well recognized by the general medical profession. Nerve root pain secondary to herniated cervical disc may prove almost impossible to differentiate from pain produced by encroachment of an osteoarthritic spur at the foramen. Although acute disc herniation may often present with abrupt and excruciating radicular pain, a not dissimilar pattern may be seen in foraminal spurring with nerve root involvement upon occasion. Cervical spondylosis secondary to trauma with resultant alteration of the disc interspace and vertebral bodies, or disc degeneration with the process of aging, produce bony changes involving foramina with probable traction and displacement of the nerve roots and consequent radicular pain. It is not an infrequent occurrence for the neurosurgeon to find all three conditions coexisting in the same patient, i.e., (1) cervical spondylosis, (2) an osteoarthritic spur at the foramen, and (3) the presence of a disc herniation. Cervical spondylosis per se more commonly results in "long tract" signs (spasticity, clonus, paresis, and sphincter involvement) than in causation of root pain. The "silent" nature of this disorder in the absence of pain-producing symptoms may prove all the more devastating to the patient because of its gradual and inexorable course and often late recognition by the practitioner. In the absence of a history of trauma central disc herniation is most often confused with tumor and the distinction may sometimes not be possible until the time of surgical exploration. Diagnosis of an acute cervical disc rupture whether lateral or central is almost a surgical emergency, because of pain in the former, and the possibility of permanent, irreversible cord damage in the latter. Neoplasms involving the cervical spine may be suspected by evidence of roentgenologic changes (neurofibroma, meningioma, metastasis), bone scan studies and myelographic findings. Multiple sclerosis may produce nerve root pain and, since pain is not commonly considered as occurring in this disease, should be kept constantly in mind especially in the age group which this disorder may most frequently afflict. Bursitis affecting the shoulder joint may cause difficulty in differential diagnosis and this is especially so when long-standing undiagnosed root pain of cervical origin has led to limitation of motion at the shoulder

joint and development of "frozen" shoulder. Flexion-extension injuries of the neck, so-called "whiplash", result in root pain most commonly due to fractures or subluxations of the cervical spine not revealed by inferior, inadequate, or incomplete radiologic studies;[5] in questionable instances tomography may prove of invaluable assistance and advantage should be taken of such studies when persistence of pain is the presenting complaint despite negative roentgenologic studies. Serial roentgenologic studies four to six weeks apart in such patients may reveal an unsuspected subluxation, laminar or pedicle fracture line. In the elderly patient who has been subjected to trauma there may exist considerable difficulty in distinguishing a subluxation from spondylotic disease when marked degenerative disc space narrowing and osteoarthritis may coexist. It should also be emphasized that unless satisfactory flexion and extension lateral films of the cervical spine are procured (and this may prove difficult in the acute, immediate post-traumatic phase of an injury) a cervical subluxation can be easily overlooked. Superior sulcus tumors may in their early stages be not only difficult of diagnosis but may equally well produce brachialgia or radicular pain quite readily suggestive of herniated disc disease; the surgeon may all too easily be trapped especially when no pulmonary lesion is apparent on initial chest x-ray examination. Anterior scalene syndrome, cervical rib compression of the brachial plexus, and costo-clavicular syndrome may be further causes of diagnostic difficulty to the examining physician and in such instances myelography may prove of inestimable assistance. Myelography is almost a sine-qua-non in all patients who, after injuries to the cervical spine with or without subluxation or fracture, show *progression* of *neurologic deficit* since central or centro-lateral traumatic disc ruptures may have occurred and, with early diagnosis and surgical intervention, complete cure of the neurologic deficit may be effected. Although the "teen-age" lumbar disc syndrome has occupied a conspicuous place in medical literature, herniated cervical discs, as well as subluxations of the cervical spine after flexion-extension injuries to the cervical spine, may occur in this same age group and have received only scant cognizance to date. The latter condition may be vividly seen when the patient is studied by cineradiography, a procedure which is unfortunately little utilized at present. Occipital neuralgia resulting from trauma to head or neck is exceedingly rare and surgical neurectomy for this condition should be reserved until other causes of headache, neck and suboccipital pain have been excluded and then resorted to after diagnostic block of the affected nerve has produced relief. Of help on occasion may be the use of alternate blocks of an anesthetic agent and isotonic saline (as a control) to determine whether or not the relief obtained by injection is psychologic. Minimal subluxations of the cervical spine without significant neurologic deficit may be treated by use of a collar, frequent neurologic evaluation, and cervical spine x-rays at six to eight week intervals. Injuries to the cervical cord consequent to fracture-subluxation should be handled by use of immediate tongs and administration of dexamethasone to combat cervical cord edema. If indications for surgery exist, time is of the essence and early exploration, decompression of the cervical cord, and removal of herniated disc fragments should be accomplished as promptly as possible. Lateral disc herniations can be managed by hemilaminectomy and foraminotomy rather readily.[6] Large central herniations can often be surgically treated similarly although on occasion a complete laminectomy with removal of cervical spine and both laminar arches may be advisable to avoid injury to the cervical cord or nerve roots. Exploration of multiple cervical nerve roots on the same side is best avoided insofar as possible since resultant motor weakness may prove an annoying sequela of such surgery. Spondylotic ridging, often occurring at multiple cervical levels, can be corrected by posterior decompressive laminectomy[7] with foraminotomy bilaterally at each level; section of the dentate ligaments has proved unnecessary in the author's experience and the dura should *not* be opened and certainly should not be left open, as was once

advocated. Fascial graft or dura substitutes should be utilized if dural defects occur. Surgical treatment of syringomyelia remains poor and unsatisfactory at best. Despite development of an extensive literature and proponents for anterior cervical exploration and fusion, the author prefers the posterior approach and reserves the anterior approach for fracture subluxations requiring stabilization and for selected spondylotic defects limited to one or at most two interspaces. Recognizing that there are controversial differences of opinion and preferences for anterior versus posterior operative approaches to cervical spine lesions it may perhaps be wise to conclude that in many instances the surgeon should utilize the operative approach with which he has the greater experience and skill. By either anterior or posterior cervical spine exploration fracture subluxations can be successfully fused, discs removed, and spondylotic defects corrected. Posterior exploration would still seem to be the ideal approach nonetheless for primary or metastatic neoplasms to the cervical spine region. The use of head halter traction in the management of most of these conditions presented has proved disappointing and unsatisfactory to the author and quite probably is best reserved for the acute cervical strain or the patient with psycho-somatic cervical discomfort. Most patients who benefit from cervical traction would improve with time and analgesics just as readily. The placebo of cervical traction is usually fruitless and unwise in the management of a patient with an organic lesion involving the cervical spine, nerve roots, or spinal cord.

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338 Main Street
Newport News, Virginia

Diagnostic Laboratory Medicine....

Antimicrobial Susceptibility of Common Bacterial Species—1973

HARRY P. DALTON, Ph.D.
MARIO R. ESCOBAR, Ph.D.
MARVIN J. ALLISON, Ph.D.

In response to numerous requests, the Clinical Microbiology Laboratory at the Medical College of Virginia Hospitals is once again publishing the *in vitro* antimicrobial susceptibility of commonly isolated bacteria. However, it must be reiterated that these results reflect only the antimicrobial spectrum for a particular microorganism *in vitro* because many factors which may affect *in vivo* activity cannot be measured using *in vitro* procedures.

The susceptibility pattern of 13 bacterial species to 15 antimicrobial agents is listed in Table I. The results were obtained by means of a disc diffusion technique using Difco discs on Trypticase Soy Agar medium which had been inoculated with the test organism. The technique was controlled by repeated testing of stock cultures of known susceptibility and by parallel tube dilution tests.

Among the gram-negative bacteria, Serratia and Pseudomonas continue to show high resistance to most antibiotics while Escherichia, one of the most commonly isolated gram-negative organisms, is also one of the most sensitive. The inclusion of both *Staphylococcus aureus* and *Staphylococcus epidermidis* in the table allows for the demonstration of the wide variability of these strains to antibiotics and points to the need for *in vitro* testing to establish the antibiotic sensitivity pattern for each strain. It should be mentioned that methicillin-resistant strains of *Staphylococcus aureus* have not been found in this laboratory. Those rare strains which showed resistance by the disc method were sensitive by the tube dilution procedure.

Table I

Percentage of Susceptible Strains From 13 Bacterial Species to 15 Antimicrobial Agents *in vitro**

Organism	Number of Strains	Penicillin (10)	Ampicillin (10)	Methicillin (5)	Carbenicillin (50)	Cephalothin (30)	Erythromycin (2)	Tetracycline (30)	Streptomycin (10)	Chloromycetin (30)	Kanamycin (30)	Neomycin (30)	Gentamycin (10)	Polymyxin (50)	Nalidixic Acid (30)	Furadantin (100)
		Percent of Strains Sensitive														
Staphylococcus aureus	200	28	35	99	ND	97	97	86	88	99	ND	ND	ND	ND	ND	ND
Staphylococcus epidermidis	176	58	65	83	ND	95	84	60	79	89	ND	ND	ND	ND	ND	ND
Enteric Streptococcus	134	98	98	3	ND	64	77	21	10	97	10	ND	ND	ND	ND	96
Beta Streptococcus (Not A)	118	97	99	90	ND	99	96	29	0	75	ND	ND	ND	ND	ND	ND
Alpha Streptococcus	166	86	93	49	ND	94	87	39	26	98	19	ND	ND	ND	ND	ND
Escherichia	415	ND	63	ND	68	85	ND	67	74	95	93	81	91	68	95	97
Enterobacter	166	ND	8	ND	74	29	ND	68	80	82	85	96	97	48	95	90
Klebsiella	327	ND	2	ND	12	80	ND	61	74	69	78	90	95	52	93	89
Serratia	63	ND	0	ND	40	0	ND	30	58	55	92	82	93	26	55	0
Proteus mirabilis	218	71	56	0	88	91	0	2	80	61	71	99	54	6	90	20
Providencia	71	0	11	0	17	3	0	0	19	12	95	84	98	0	79	21
Pseudomonas aeruginosa	339	ND	0	ND	83	0	ND	2	3	10	55	70	96	75	5	0
Herellea vaginicola	65	0	20	0	99	0	0	72	53	18	95	89	90	66	77	11

*Figures in parentheses represent the antibiotic concentration in μg/ml used.
†ND-Not Done.

All strains of Beta hemolytic Streptococcus, Lancefield Group A, and *Diplococcus pneumoniae* that were tested showed sensitivity to penicillin; for this reason, these organisms do not appear in the table.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia 23298

The Rx that says "Relax"

BUTISOL Sodium provides highly predictable sedative effect: minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action: begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

BUTISOL Sodium is remarkably well tolerated: a 30-year safety record assures you that there is little likelihood of unexpected reactions.

BUTISOL Sodium saves your patients money: costs less than half as much as most commonly prescribed sedative tranquilizers.*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

*Based on surveys of average daily prescription costs.

Butisol C III SODIUM
(SODIUM BUTABARBITAL)

Contraindications: Sensitivity or idiosyncracy to barbiturates; history of manifest or latent porphyria or marked liver impairment; respiratory disease with dyspnea or obstruction; history of addiction to sedative/hypnotic drugs; uncontrolled pain, to avoid because of possible excitement.
Precautions: Exercise caution in: moderate to severe hepatic disease; anticoagulant therapy, because of possible increased metabolism of coumarin anticoagulants; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects.
Adverse Reactions: Slight hangover, drowsiness, lethargy, headache, skin eruptions, nausea and vomiting, hypersensitivity reactions (especially in those with asthma, urticaria, angioneurotic edema, or similar conditions).
Usual Adult Dosage: For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg.
Available as: Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

McNEIL
McNeil Laboratories, Inc., Fort Washington, Pa. 19034

© McN 1971

What's on your patient's face...

may be more important than his chief complaint

Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Multiple actinic or solar keratoses.

Contraindications: Patients with known hypersensitivity to any of its components.

Warnings: If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

How Supplied: Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

This patient's lesions were resolved with

Efudex®
fluorouracil/Roche®

5% cream/solution...a Roche exclusive

When a cough spoils your patient's day...

Triaminic® Expectorant

Each teaspoonful (5 ml.) contains:

Triaminic, 25 mg. (phenylpropanolamine hydrochloride, 12.5 mg.; pheniramine maleate, 6.25 mg.; pyrilamine maleate, 6.25 mg.); glyceryl guaiacolate, 100 mg.; alcohol, 5%.

Triaminic® Expectorant with Codeine ©

Each teaspoonful (5 ml.) contains:

Codeine phosphate, 10 mg. (Warning: May be habit forming); Triaminic, 25 mg. (phenylpropanolamine hydrochloride, 12.5 mg.; pheniramine maleate, 6.25 mg.; pyrilamine maleate, 6.25 mg.); glyceryl guaiacolate, 100 mg.; alcohol, 5%.

Triaminic Expectorant with Codeine is a Schedule V controlled substance.

The Adult Expectorant that is great for kids, too.

Dorsey Laboratories/Division of Sandoz-Wander, Inc./Lincoln, Nebraska 68501

BS–SB

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Hypertension

Hypertension has for some time been recognized as a risk factor for coronary heart disease. Extremely high blood pressure carries a high risk of stroke or myocardial infarction, or rapidly progressive hypertensive heart, retina, and kidney disease. However, the behavioral etiology of hypertension is poorly understood. Known physical causes of hypertension account for only a small percentage of cases. The only route left for greatly reducing the impact of hypertension is chronic medical treatment of persons with hypertension. Therefore, an effective national campaign for blood pressure control must involve the medical professions to an unprecedented degree. Thus, it is imperative that members of the medical professions be aware of the involved issues.

Studies Indicate Seriousness of Problem

Understanding of the broad public health importance of hypertension has been slow in coming. It has awaited the finding that there is no sharp division between "hypertension" and "normotension". With each increase in blood pressure there is a corresponding increase in associated morbidity and mortality. Divisions, or categories, when proposed, are simply artifacts of convenience. Furthermore, since large numbers of the population have intermediate levels of blood pressure, a significant number of the morbid events occur in this group.

Epidemiological studies, such as Framingham's or Peoples' Gas have demonstrated that systolic levels of 120 to 139 mm Hg or diastolic levels of 80-89 mm Hg carry a risk of clinical coronary heart disease two to four times that of lower levels. Likewise, persons with a diastolic blood pressure of 90 mm Hg or a systolic blood pressure of 140 mm Hg have a risk of death one-and-a-half times that of persons with blood pressures below 80 mm diastolic or 120 systolic. Higher blood pressure levels carry correspondingly more dramatic risks of morbidity or death.

Determining Excess Deaths Due to Hypertension

Calculations of the number of deaths due to hypertension have traditionally been taken from death certificate studies where certain causes of death, such as hypertensive heart disease or stroke with hypertension, are considered to be caused by hypertension. A different approach can be taken utilizing data from large prospective epidemiological studies. In these, a line of convenience is drawn between "normotensives" and "hypertensives". The death rate, irrespective of cause of death, in normotensives is subtracted from the death rate in hypertensives, and the remainder is termed the *attributable risk* of death associated with hypertension in individuals. If the attributable risk for hypertension is multiplied by the proportion of persons in the population with hypertension as defined, the result is the increase in death rate in the population associated with the presence of hypertension in the population. This is termed the *attributable population risk* of death associated with hypertension. The attributable population risk may be divided by the total death rate to give the proportion of the total death rate ascribable to excess deaths in hypertensives. This may be multiplied by the total number of deaths to give the number of deaths which are excess deaths occurring in hypertensives. This can be imagined as the largest possible estimate of the improvement in the number of deaths were hypertension and its sequellae to be eliminated from the population.

The percentages of deaths in middle aged whites in the Framingham Study* which are excess deaths associated with hypertension are shown below:

PERCENTAGES OF DEATHS WHICH WERE HYPERTENSION RELATED EXCESS DEATHS, OVER A 16-YEAR FOLLOW-UP.

	Age at Outset	
	45-54	55-64
White males	35%	28%
White females	19%	43%

*Calculated from data on systolic hypertension, The Framingham Study, section 26, DHEW, Dec. 1970.

If these figures are applied to Virginia, it can be roughly estimated that some 2,700 deaths are possibly preventable each year in whites aged 45 to 64. Data for similar calculations for blacks from the Evans County, Georgia, study suggest that 2,440 deaths in blacks aged *40* to *69* each year are *possibly* preventable with the elimination of hypertension. The term "possibly" should be stressed.

It is not known what degree of efficiency can be reached in a community hypertension program. The Veterans Administration Cooperative Study demonstrated that in a carefully selected, very cooperative group of patients with sustained diastolic hypertension, hospital-based treatment of the hypertension could reduce the number of morbid events by 75 percent in those with diastolic blood pressure of 105 to 114 mm Hg and by 35 percent in those with blood pressures of 90 to 104 mm Hg. It is quite another question, however, to measure the efficiency of a program aimed at the general public. At present, the 5-year *Hypertension Detection and Followup* Program at 14 centers in the nation is aimed at answering just this question.

Present 5-Year Study

This study has systematically screened communities for hypertensives, randomly divided them into two groups, referred one group back to its usual source of medical care, and entered the other group into a stepped-up care program of hypertension management. At the end of five years, the groups will be compared for the effect of treatment on mortality. This study will therefore estimate the maximum benefit currently obtainable by a centrally directed, aggressive case finding and treatment program, using up-to-date methods, relative to simple screening and currently available routine medical care. This aggressive approach, including free care and medications, is very expensive, but if successful in greatly reducing mortality, it will provide a powerful argument for implementation on a greater scale.

The arguments for the amount of government participation in such a program will partially rest on the adequacy with which hypertension is handled by the present mixture of public and private medical care. It is stated that currently "more than half of all individuals with elevated blood pressure do not visit physicians" and "that half of those who receive treatment do not take it regularly." Doubt has been expressed as to whether health delivery services as they are now constituted can meet the challenge of continuous education and surveillance of communities in a uniform and optimal manner without the establishment of a specialized program.[1]

Questions Affecting Program Validity

Before such a program is launched, however, several questions must be considered: Can methods of identifying the hypertensive individual which are efficient but comprehensive be found? Can medical care facilities which are capable of providing continuous chronic care in an equitable manner be designed and made available? Can patients, once identified, be educated to accept responsibility for making use of such facilities, or must an aggressive home followup procedure be an expensive addition to the program? Can hypertensive therapy be provided without accepting responsibility for coexisting illness?

At what level does it become valuable to treat the hypertensive patient, keeping in mind drug toxicity. What percentage of hyperten-

Medical Basis for Comprehensive Community Hypertension Central Programs D.H.E.W. Publication # 74-3800; Borhani, Nemat, M.D. 1973.

sion is secondary, related to coarctation of the aorta, hyperaldosteronism, glomerulonephritis, renovascular disease and other causes, and how complete must be the study in each new hypertensive patient to exclude these causes? What, if any, is the pathological effect of labile hypertension and what are rational grounds for its therapy?

Finally, what is the basic genetic, environmental, and socioeconomic biology of primary hypertension?

Present State Efforts

Virginia's modest public and voluntary agency efforts in hypertension are at the present time basically research or educationally oriented. The National and Virginia Heart Associations have begun a public advertising campaign to heighten public awareness. The Virginia Regional Medical Program is supporting a pilot project in Charlottesville, Virginia, which will provide experience and cost accounting in the development and management of a comprehensive community hypertension service. It will include professional and public education, door-to-door screening, and a community treatment center to provide care when it is not otherwise available. The VRMP is also supporting a Virginia Heart Association project to screen 25,000 persons across the state to provide current data on hypertension prevalence and utilization of care services. There is a committee on High Blood Pressure Education working with the State Health Department in exploring ways to educate the public to the seriousness of hypertension. This committee has applied for a Federal grant to advance its project.

Other projects are the development of a nurse training program in hypertensive care at Hampton Institute, workshops for training dieticians in hypertensive diet planning by the Virginia Dietary Association, a pilot program for screening school children for hypertension in Richmond, and exploration of the feasibility of developing screening programs by dentist and pharmacist assistants. Each of these will provide Virginia with experience and information relevant to hypertension control programs.

Clinical Center Studies of Patients with Anorexia Nervosa

Cooperation of physicians is requested in the referral of patients with anorexia nervosa for a study being conducted by the National Institute of Child Health and Human Development, Reproduction Research Branch at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients will be entered into a double-blind treatment protocol with cyproheptadine with concomitant endocrine evaluation.

Upon completion of the study, patients will be returned to the care of their referring physicians who will receive a summary of the findings.

Physicians interested in having their patients considered for admission may write or telephone: Dr. D. Lynn Loriaux, National Institute of Child Health and Human Development, Clinical Center, Room 12N206, National Institutes of Health, Bethesda, Maryland 20014. Telephone: (301) 496-5800 *or* 496-4686

Correspondence . . . .

Subject: Proposed Legal Action

During its January 23-25 meeting, the AMA Board of Trustees voted (1) to file suit to prevent the implementation of proposed regulations requiring preadmission certification of elective hospital admissions for Medicare beneficiaries and Medicaid recipients and (2) to join with those state medical associations that wish to protest the PSRO area designations for their areas by means of legal action.

On January 25, Russell B. Roth, M.D., AMA President and James H. Sammons, M.D., Chairman of the Board, released the attached statement to the press as an announcement and explanation of these actions.

These actions were taken not only to protect the rights of patients and their access to medical care but also to speak firmly on issues that are of immediate concern to the medical profession. We hope that you will bring these actions to the attention of physicians in your community.

Ernest B. Howard, M.D.
Executive Vice President
American Medical Association

February 1, 1974
535 North Dearborn Street
Chicago, Illinois 60610

Statement Made at Press Conference, January 25, 1974, by Russell B. Roth, M.D., *President of the American Medical Association and* James H. Sammons, M.D., *Chairman, Board of Trustees.*

We are here today to serve notice on Secretary Weinberger that if he proceeds with two proposed actions, we are going to take him to court.

Earlier this month, the Secretary of the Department of Health, Education and Welfare issued a set of proposed regulations that would require pre-admission certification for Medicare and Medicaid. If adopted as proposed, they would require that every Medicare and Medicaid patient be cleared by a Utilization Review Committee before admission to a hospital. The only exception would be emergency cases.

These regulations are a direct threat to the medical care of the 35 million or so patients who are served by Medicare and Medicaid. For most of them, the withholding of Medicare or Medicaid hospital benefits will mean that the individual will be denied hospitalization because they have no other means to pay for their care.

Furthermore, such decisions would not be made on the basis of an examination of the patient by physicians. Rather, they would be paper decisions. The verdict would be rendered on the basis of what the patient's doctor put down on the record. It is likely that, as a practical matter in many instances, the decision would not be made by a committee or physicians or even a single physician but by an admitting nurse or other hospital administrative personnel.

Any such denial of medical care represents a clear violation of both the spirit and the letter of the Medicare-Medicaid law. Congress clearly established the programs to provide medical care for the elderly and the poor. What the Congress has given, the Secretary now seeks to take away. The Secretary has no authority under the guise of regulations to amend the law and reduce benefits. He has no moral or legal right or authority to do so. Indeed, his action is as illegal as it is reprehensible. The Congress did not intend that a committee substitute a paper decision for the judgment of a patient's physician. The Secretary's proposal is a direct and clear violation of Section 1801 of the Medicare-Medicaid law.

We intend to fight Mr. Weinberger on this. His proposed regulations are wrong medically, wrong morally, and wrong legally. We are here to serve notice on the Secretary that if he persists in putting the regulations into effect,

Sign of a cold* sufferer

Time for Ornade®

Each Spansule® capsule contains 8 mg. Teldrin® (brand of chlorpheniramine maleate); 50 mg. phenylpropanolamine hydrochloride; 2.5 mg. isopropamide, as the iodide.

Fast relief of nasal congestion and hypersecretion* with convenient b.i.d. dosage.

Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

*

Indications

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Possibly effective: For relief of upper respiratory tract congestion and hypersecretion associated with vasomotor rhinitis and allergic rhinitis, and for prolonged relief.

Lacking in substantial evidence of effectiveness: For relief of nasal congestion and hypersecretion associated with the common cold and sinusitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Hypersensitivity to any component; concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

Warnings: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

Usage in Pregnancy: In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

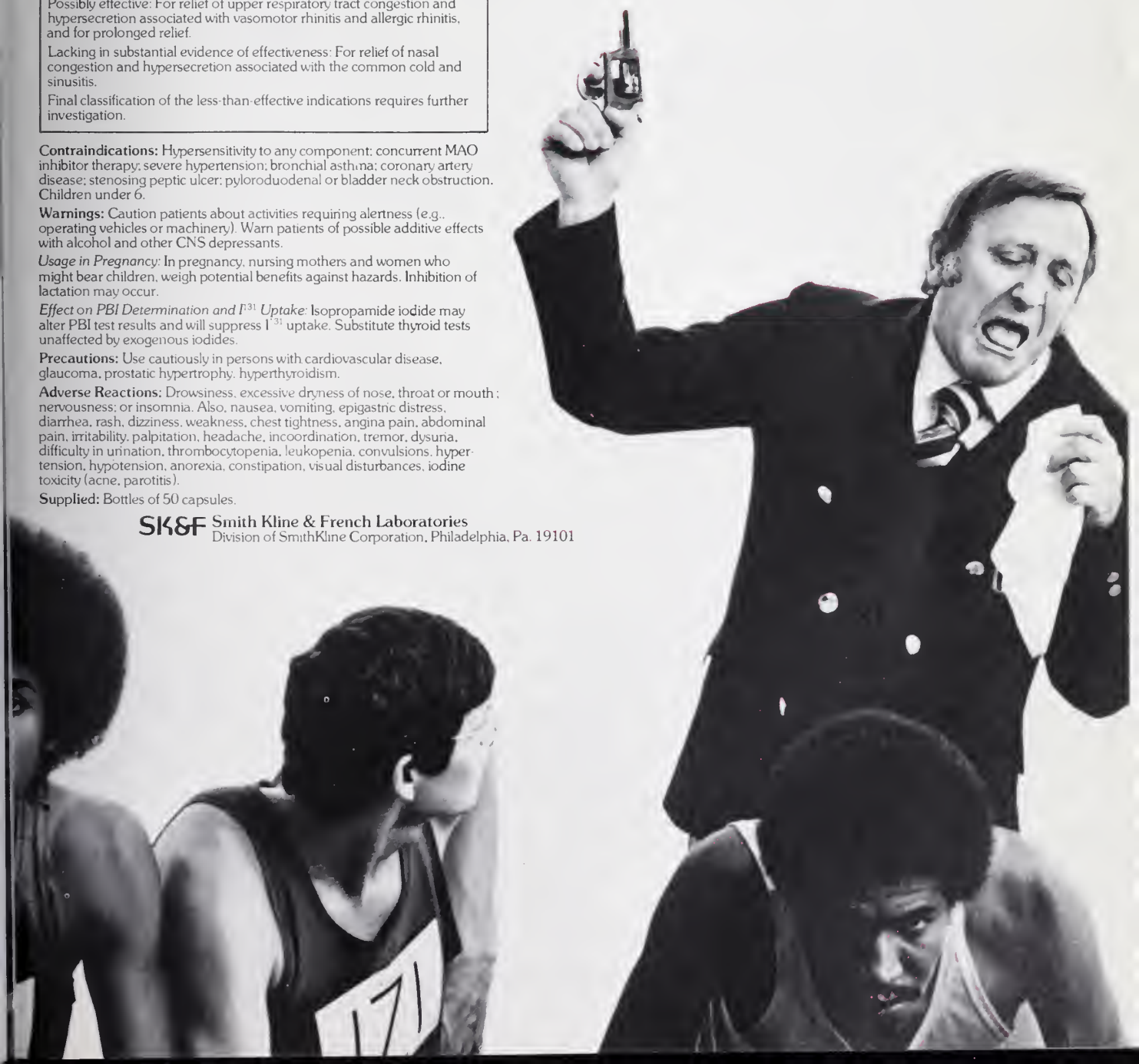
Effect on PBI Determination and I^{131} Uptake: Isopropamide iodide may alter PBI test results and will suppress I^{131} uptake. Substitute thyroid tests unaffected by exogenous iodides.

Precautions: Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

Adverse Reactions: Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

Supplied: Bottles of 50 capsules.

SK&F Smith Kline & French Laboratories
Division of SmithKline Corporation, Philadelphia, Pa. 19101



The irritations of man's day are often reflected in his gut.

The causes of irritable colon and the diarrheal symptoms that often accompany it can be as diverse as the systemic and emotional irritations man is faced with daily.

Although the mucoid nature of stools and the occurrence of diarrheal episodes coincident with times of emotional stress may be valuable clues to the functional nature of the disorder, irritable colon must often be diagnosed by exclusion. Such diagnostic exploration takes time. Discovery of the nature of any emotional problems may take more. During that time, Lomotil® is an ideal agent for controlling diarrheal symptoms.

Lomotil tablets are small, easy to carry and easy to take. They act promptly and effectively. Secondary effects are relatively infrequent and, once the first force of the diarrhea is controlled, maintenance is frequently effective on as little as one fourth of the initial dosage.

These same characteristics make Lomotil useful in controlling the diarrhea associated with gastroenteritis, antibiotic therapy and acute infections.

Lomotil®

TABLETS/LIQUID

Each tablet and each 5 ml. of liquid contain:
diphenoxylate hydrochloride . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.

takes care of the gut issue in irritable colon

IMPORTANT INFORMATION: *This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.*

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

Dosage and administration: ***Lomotil is contraindicated in children less than 2 years old.*** Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. *Liquid,* 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

SEARLE **Searle & Co.**
San Juan, Puerto Rico 00936

Address medical inquiries to:
G. D. Searle & Co., Medical Department
Box 5110, Chicago, Illinois 60680

Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.

INDICATIONS: *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

PRECAUTION: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

NEOSPORIN® Ointment

(POLYMYXIN B-BACITRACIN-NEOMYCIN)

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and 1/32 oz. (approx.) foil packets.

Wellcome

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

the AMA will seek an injunction on that very same day to stop him.

We would welcome support from all interested parties, such as senior citizen organizations and consumer groups. We would hope they would join in our action. But with them or without them, we will be in court on the day those regulations are promulgated.

While we are in a suing mood, let me mention that we are also going to take on Mr. Weinberger in another area.

This involves his gerrymandering of the PSRO district. Without getting too involved, let me say for those of you who don't know, PSRO stands for Professional Standard Review Organizations. These are supposed to be groups of doctors set up to review the quality and medical necessity of care given under Medicare and Medicaid.

The AMA originally opposed PSRO. But once it became law, we decided that if such review was going to be done it would be better for all concerned if it were done by physicians.

We decided to cooperate with HEW in the implementation of the law. I can tell you, we've had very little cooperation in return.

Peer review—the concept on which PSRO is based—was invented by the medical profession and was in existence long before the government ever heard of the idea. There are many excellent and functioning peer review programs now in effect in this country, and we asked the Secretary to set up the PSRO designated areas (regional units) so as not to disturb them.

This plea apparently fell on deaf ears. I won't hazard a guess as to the reason behind the Secretary's area designations. I don't think there were any. I think the decision was simply capricious and arbitrary.

Our Board of Trustees has voted to join with any of our state organizations who want to go to court to upset the area designation in their state. Our preliminary indications are that seven or eight may do so.

Let me say in closing that over the past four or five years we have made a deliberate effort to cooperate with HEW in implementing government programs for the benefit of the people. I think for a while there was good communication and good cooperation.

That day apparently has passed. Of late we've had nothing but rebuff after rebuff. We've now been left with no recourse but to fight in our own best interests and, we believe, in the best interests of our patients.

No Seasonal Pattern in Suicides

Suicides defy any fixed seasonal or climactic patterns, says a report in the January issue of *Archives of General Psychiatry*, a publication of the American Medical Association.

Researchers at Duke University Medical Center and Durham Veterans Administration Hospital, Durham, N. C., analyzed reports of 3,672 deaths by suicide in North Carolina from 1965 to 1971.

They found no major upsurges for special holidays, weekdays versus weekends, months or seasons. Only in days of the week was a difference noted. The highest proportions of suicides during the week were on Mondays. Climate had no impact, when statistics on whether the suicide days were hot or cold, rainy or clear, humid or dry, short or long were compared.

Special holidays—New Year's Day, Easter, Memorial Day, July 4, Labor Day, Thanksgiving and Christmas—also showed no higher rates than other days.

"For the present it seems that early recognition of depression and its subsequent treatment may be the most effective measure we have today for suicide prevention."

Authors are William W.K. Zung, M.D., and Robert L. Green, M.D.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held in the Green Room of Richmond's Holiday Inn-West on Wednesday, January 9.

Members Present: Dr. John A. Martin, Dr. William R. Hill, Dr. Carl E. Stark, Dr. Raymond S. Brown, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. William J. Hagood, Jr., Dr. Harold L. Williams, Dr. Charles E. Davis, Jr., Dr. Carrington Williams, Jr., Dr. George J. Carroll, Dr. Girard V. Thompson, Sr., Dr. H. C. Alexander, III, Dr. George M. Nipe, Dr. Thomas L. Lucas, Dr. James Hal Smith and Dr. W. Leonard Weyl.

Others Present: Dr. James C. Respess, 2nd Vice President; Dr. James S. Kitterman, 3rd Vice President; Dr. K. K. Wallace, Jr., Vice-Speaker; Dr. Gervas S. Taylor, Jr., Dr. Charles M. Caravati, Jr., Dr. Gordon G. Birdsong, Dr. Anthony J. Munoz, Dr. Harry C. Kuykendall and Dr. C. Barrie Cook, Vice-Councilors; Dr. W. Callier Salley, Dr. William S. Hotchkiss and Dr. Michael A. Puzak, AMA Delegates; Dr. Percy Wootton and Dr. F. Ashton Carmines, Alternate AMA Delegates; Dr. William S. Allerton, Commissioner, Department of Mental Health & Mental Retardation; Dr. William R. Drucker, Dean, University of Virginia School of Medicine; Dr. Warren H. Pearse, Dean, Medical College of Virginia; Gary Miller and Chris Davis, representing MCV Student Medical Society; Mr. Robert G. Stuart, Executive Secretary, VaMPAC; and Mr. William R. Miller, Attorney.

Council Format

Dr. Martin called attention to the seating arrangements and indicated that all voting members of Council will be seated board room style and all others will be seated school room style. This will, hopefully, eliminate any doubt which might exist concerning the casting of votes.

Dr. Martin went on to say that the various agenda items will, whenever possible, be assigned to various members of Council for preliminary study. They will then be able to lead the discussion.

After announcing that Dr. Salley would serve as parliamentarian, Dr. Martin requested everyone's cooperation in keeping the meeting moving. He pointed out that Council agenda have become unavoidably lengthy and those wishing to comment on the various items should present their thoughts in orderly fashion—thereby eliminating additional statements and prolonging the discussion.

Assigned Community Practice

Dr. John Owen pointed out that although millions of dollars have been spent on various crash programs, no solution has as yet been found to maldistribution of physicians. It was for this reason that he became interested in assigned community practice and the possibilities it possessed. An editorial appearing in the January, 1972, issue of the Virginia Medical Monthly covered the proposal quite thoroughly and attracted considerable attention. The Albemarle County Medical Society was particularly anxious that the concept be reviewed and acted upon by The Medical Society of Virginia.

Dr. Owen expressed the feeling that physicians themselves should take the lead in solving the distribution problem and should not look to other parties for the answer. He called attention to the fact that the National Health Service Corps has enjoyed only limited success and the problem is not going to go away by itself. It was his wish that a resolution sponsored by the Albemarle County Society be approved and eventually introduced in the AMA House of Delegates. The resolution to which he referred would have The Medical Society of Virginia and the AMA endorse the concept of assigned community practice following internship as an alternative to military service and a means of alleviating the current shortage of primary physicians in the United States.

During the ensuing discussion it was learned that considerable opposition to the concept has been expressed in some parts of the State—the main objection being the enforced regimentation aspect. The Family Planning Department of the Medical College of Virginia was said to believe that assigned community practice could have an adverse effect on its program.

The thought was expressed that medicine should be innovative rather than negative in its approach to problems of this kind and it was pointed out that other countries—particularly Mexico and Turkey—are trying such plans. A suggestion was made that the various specialty groups be contacted concerning their willingness to admit only those physicians who have had two years of general practice. In this manner, the approach would be voluntary rather than mandatory.

A motion was then offered by Dr. Weyl thanking Dr. Owen for his thoughtful presentation and directing that his report be received. The motion was seconded.

Dr. Hagood then introduced a substitute motion which would refer the matter to the House of Delegates for final action. *The motion was seconded and carried.*

New Component Society

Dr. Thompson reported that physicians in Franklin County have organized the Franklin County Medical Society and have requested that it be chartered as a component. He indicated that officers have been elected and a formal application is expected within a very short while. It was brought out that approximately ten physicians will be involved at the beginning and some concern was expressed over the Society's small size. It was agreed, however, that size should be no deterrent if the Society is active.

A motion by Dr. Thompson to grant the new Society's request for a charter was seconded and adopted.

Committee on Family Life Education

During the recent Annual Meeting in Norfolk, a resolution was sponsored by the Norfolk County Medical Society having to do with a Committee on Family Life Education. The House referred the resolution to Council for further study. Dr. Davis, speaking on behalf of the resolution, stated that the proposed Committee would be concerned with all aspects of family planning—including counseling, promotion of youth services, teacher education, problems associated with abortions and pregnancy, family relationships, etc.

Following considerable discussion, it was moved by Dr. Hagood that the matter be referred to the Committee on Maternal Health for study and recommendation. *The motion was seconded and carried.*

Speaker's Report

Dr. Hagood reviewed those matters acted upon by the House of Delegates in Norfolk and reported on their disposition to date. Council was pleased to learn that nearly all of the House directives had been carried out.

In those instances where some action was still needed, Dr. Hagood presented his recommendations. For example, those matters having to do with ethics, mental health and maternal health could be handled advantageously through the Society's newsletter. The question concerning physician participation on hospital Boards of Trustees might very well benefit from an editorial in the Virginia Medical Monthly. Attention was called to the fact that although the Division of Motor Vehicles had been contacted concerning problems associated with drivers having diabetes, it remained necessary for a special Committee on the subject to be appointed. Dr. Hagood also mentioned the recommendation that newsletters be published more often—a proven method of improving communications.

Dr. Hagood's report was for information only and no formal action was required.

Drug Company Representatives

Dr. Mickael M. Kannan was introduced and invited to present his views on the need of drug company representatives. Dr. Kannan expressed concern over the cost associated with drug advertising and indicated that the patient must ultimately bear the expense. He made it clear that drug company representatives are quite sincere in their feeling that they are performing a worthwhile function in striving to educate the physician concerning their various products. He went on to call attention to many unsolicited publications which physicians receive daily—most of them supported to a great extent by drug advertising. It was believed that physicians should play a greater role in determining to what extent the profession will participate in such programs and a suggestion was made that a set of guidelines be established.

During the ensuing discussion it was brought out that physicians should be able to control visits by drug company representatives if they so choose. In answer to a question, Dr. Kannan

hastened to assure Council that his thoughts and comments were not in any way intended as a blow to private enterprise. Rather, it was his wish that medicine look at the problem in a completely objective manner and possibly establish reasonable and workable guidelines.

A motion by Dr. Stark to refer the matter to the Committee on Pharmacy was seconded and adopted.

Legislative Update

Mr. Osburn reported that meetings—all of them quite productive—had been held in all ten Districts with members of the General Assembly. As a result, the Society's overall legislative program is in a much better position than ever before.

Mr. Osburn went on to say that a number of matters had been brought to the attention of the Legislative Committee since the Annual Meeting and that some action by Council appeared necessary. Proposed legislation having to do with comprehensive emergency medical services was the first of these items discussed. The legislation deals with improved communication networks, transportation, Emergency Room standards, make-up of the Governor's Commission on Emergency Services, etc. It was agreed that the Society should support the legislation.

It was also agreed that the Society should support legislation requiring fire sprinkler systems for multistoried structures. This would primarily affect new construction.

Prescription drug advertising, as it pertains to competitive pricing, was discussed and it was learned that the matter is in litigation at the moment. *A motion to postpone further consideration indefinitely was seconded and adopted.*

Mr. Osburn reported that the Pharmacy Committee had met in special session with Senator Duval for the purpose of discussing his proposed voluntary formulary bill. The Committee pointed out to Senator Duval its objections to such legislation and sought to clarify the issues involved in the generic versus brand name controversy. It was the Pharmacy Committee's recommendation that the Society oppose any effort to enact a voluntary formulary bill and *a motion to concur was adopted.*

Labeling of prescriptions was next discussed and Council voted to support the Legislative Committee in its recommendation that no change be made in the present statute. Labeling is voluntary at the present time.

Considered next was the age of school bus drivers and it was learned that both the Committee on Highway Safety and Legislative Committee feel that the minimum age limit should be increased to 18 years.

Although some statistics were quoted purporting to show that the 16-year-old driver has a very good safety record, it was decided that the Society should support its Committees in an effort to raise the minimum age to 18.

No-Fault Insurance was discussed and the Society will continue to support legislation to make it a reality.

Also considered was a proposal to seek repeal of that portion of the State Code prohibiting public sale of prophylactic items. Following considerable discussion, it was moved and adopted that the Society take no stand at this time.

Proposed amendments to the State's abortion statutes were then considered and it was learned that one of the principal provisions would delete the words "Health Care Facility" from the present law. This means that abortions in the second trimester would have to be performed in accredited hospitals. The Committee on Maternal Health was reported as being in favor of this particular amendment and Council gave its approval.

Attention was called to the fact that the House of Delegates had approved that portion of Dr. Stark's Presidential Address calling for the elimination of smallpox vaccination as a requirement for the school age child.

Mileage Allowance

For the past 16 years the Society has authorized 10¢ per mile for those using automobiles on official Society business. Recent studies by the American Automobile Association and others have indicated that this figure is much too low and that 12¢ is now an absolute minimum. It was pointed out that members of the staff and physicians representing the Society at distant meetings are those most affected. *A motion to increase the mileage to 12¢ was seconded and carried.*

Constitution and By-Laws

Dr. Wallace reported that his special Committee on Constitution and By-Laws is beginning

its study and is anxious to have as much input as possible from members of Council. Among the matters to be studied thoroughly will be the various Committees, duties and responsibilities of officers, etc. The administration of the Society is becoming more and more complex as the years go by and every effort must be made to develop By-Laws which will make for a smooth and efficient operation. Dr. Wallace indicated that AMA is also in the process of reviewing its By-Laws for similar reasons. There is no indication, however, as to when its task will be completed.

Attendance at Council Meetings

Dr. Martin advised Council that he has been most anxious to involve the various specialty groups as much as possible. In keeping with this wish, a suggestion had been made that specialty society Presidents be invited to attend meetings of Council. It was agreed that while this had much to recommend it, there are admittedly some problems having to do with attendance. Approximately 40 invitations are extended at the present time and it seems important that the meetings not be permitted to become unwieldly.

It was then agreed that preliminary agenda should be sent the Presidents of all specialty societies along with an invitation to attend the meetings should there be matters of interest to their particular groups. It was brought out that agenda are being sent all component societies in order that they might also have an opportunity to make known their thoughts on the various items.

Bicentennial Committee

Dr. Warthen, Chairman of the Society's recently appointed Committee having to do with the Bicentennial Celebration of the American Revolution, reported that plans by the State of Virginia have been somewhat indefinite. This, in large part, can probably be attributed to a lack of funds.

Dr. Warthen stated that his Committee would like to approach the Richmond Academy of Medicine, the Virginia Dental Association and Virginia Pharmaceutical Association for assistance in developing a suitable exhibit should it appear feasible. He felt that a $2,000.00 contribution from The Medical Society of Virginia was in order if the Committee is to accomplish its objective.

A motion by Dr. Davis that the Society contribute up to $2,000.00 for the Committee's use was seconded and adopted.

Blue Cross Board of Directors

The attention of Council was called to the fact that the Board of Directors of Blue Cross of Virginia contains no physician member at this time. Dr. Carrington Williams stated that the number of Board members had been cut from 35 to 15 and that the number of participating hospitals had increased to 66. These are two of the main reasons why physicians are not represented on the Board at this time. Dr. Williams went on to say that the Board does invite the Chairman of the Blue Shield Board to attend its meetings. In this way, some degree of liaison is maintained.

It was then moved by Dr. Weyl that Blue Cross of Virginia be urged to seek the election of one or more physicians to its Board of Directors. *The motion was seconded and adopted.*

PSRO

Dr. Martin reported that the Department of HEW had rejected the Society's proposal for a statewide PSRO and had designated Virginia as a five PSRO State. He stated that immediately following the HEW decision, he, Dr. Robert Keeley and Dr. Richard Palmer had met with Senator Byrd in Washington. After briefing the Senator on the problem, they met with Dr. Charles Edwards and Dr. Henry Simmons of HEW. Dr. Edwards listened quite carefully and indicated that it might well be necessary to reconsider the request of those states desiring single PSROs. Dr. Martin was urged to submit a formal appeal—containing as much documentation as possible.

There was some question as to whether the Society's annual Congressional luncheon should be scheduled earlier in order that the Congressional delegation could be briefed on Virginia's position before a final decision is made by HEW.

It was moved by Dr. Stark that the President be authorized to proceed with the Society's appeal and place copies in the hands of Virginia's Congressional delegation in order that they might also take appropriate action. The motion was seconded.

Following agreement that Dr. Keeley's Com-

mittee should be consulted and that copies of the appeal be distributed to members of Council and other interested parties, *the motion was adopted.*

Dr. Hagood indicated that a question had been raised as to whether the Society had complied fully with the resolution adopted by the House of Delegates calling for repeal of PSRO. It was reported that copies of the resolution had been sent to members of Virginia's Congressional delegation and that a similar resolution had been introduced in the AMA House of Delegates. The press did not report the action, however, and there was some question as to how the Society could publicly announce its support of the repeal movement and also the law suit initiated by the Association of American Physicians and Surgeons. It was generally agreed that an effort had been made to comply with the intent of the resolution. It was also agreed that a continuing effort should be made to keep all interested parties advised of the Society's position.

Dr. Martin stated that the Regional Medical Program has made it possible for the Society to receive a grant of $10,000.00 to be used in setting up a Foundation for PSRO purposes. The money would be used specifically for legal and incorporation fees, office rental, publication costs, postage and communications, etc. *A motion by Dr. Respess to accept the grant was seconded and adopted.*

Dr. Hagood reminded Council that the House of Delegates had directed that "should substantiative changes be made" in the Society's proposed plan for PSRO, it "should not be implemented until first brought before the Council of The Medical Society of Virginia and then to the House of Delegates for final approval in its totality." It was agreed that a special session of the House might very well be necessary after HEW has made a final decision concerning the Virginia proposal.

PSRO Workshops

Dr. William O'Brien, Charlottesville, has received many requests to conduct workshops on PSRO. As a result of these requests, the Virginia Regional Medical Program has indicated its willingness to fund workshops in various parts of the State and also support a clearing house for information on peer review.

Dr. O'Brien had requested that Council be advised of his interest in conducting the workshops. Should approval be forthcoming, he would proceed to develop an ambitious program for the months ahead. The workshops would feature demonstrations of actual methods of peer review and technical difficulties often encountered. They would provide practitioners some idea of just how peer review would be conducted and offer suggestions on the improvement of personal record-keeping systems.

Dr. Respess stated that Dr. O'Brien was doing a tremendous job in keeping physicians over the State informed and is constantly seeking to update and improve his presentation. Although no official action was taken, it was the consensus that the proposed workshops could be most helpful in preparing for the implementation of PSRO in the State.

Proficiency Evaluation Program

The College of American Pathologists has invited The Medical Society of Virginia to participate in its proficiency evaluation program for physicians' office laboratories. The program—known as PEP—is a testing program designed to improve quality control in the laboratory. Participation by the Society would make it possible for appropriate articles to be printed in the Virginia Medical Monthly and for informative brochures to receive the widest possible distribution.

A motion by Dr. Brown to endorse the program was seconded and carried.

Chiropractic Update

The Society has recently received a number of inquiries concerning the chiropractic problem and what the future holds as far as the Board of

Medicine is concerned. Council was advised that chiropractors are currently required to take Part I of the FLEX examination (Basic Science) and no change is contemplated in this regard. There was some question, however, as to whether additional action—legislative or otherwise—is needed in order to more effectively cope with the problem. It was pointed out that most states are having similar problems and that chiropractors are becoming increasingly aggressive.

It was Mr. Miller's opinion that the Board would be well advised to take no further action at this time. Should, however, such action be initiated, it was his recommendation that it simply amend its by-laws in such manner as to require all future applicants for Virginia licensure to be graduates of schools accredited by the U. S. Office of Education or National Commission on Accreditation.

Council Planning Sessions

Dr. Hagood called attention to the lengthy agenda which must necessarily be considered by Council and the fact that it never has an opportunity to really sit down and discuss the Society's overall operation, objectives, etc. It was his feeling that a special meeting for just such purpose would pay real dividends and recommended that a special committee made up of from three to five members of Council be appointed to prepare the needed agenda.

It was then moved that such committee be appointed within a week and that it be instructed to meet and begin work within two weeks on the agenda to be used at such retreat as the committee would select. The retreat would be held within ninety days and its length would be determined by the agenda committee. The motion was seconded.

There followed considerable discussion during which it was brought out that the purpose of the retreat does not really conflict with that of the Committee of Past-Presidents. There was some question as to how large a group would be involved and it was determined that only members of Council would participate. Questions were also raised concerning how the retreat would be funded and just what would constitute an acceptable time.

Dr. Weyl then introduced a substitute motion endorsing the concept of such a meeting and leaving all details to the discretion of the President. *The motion was seconded and adopted.*

Dr. Hotchkiss indicated that the Committee of Past-Presidents would be meeting in the not too distant future and would welcome any comments or suggestions members of Council might wish to offer.

Miss Hope

The American Cancer Society, Virginia Division, has invited the Society to participate in a program it refers to as "Miss Hope". The program features the selection of a nurse who will serve as the Cancer Society's representative to talk about the hopeful aspects of cancer. The first Miss Hope will be selected on January 30 at a special dinner at Hotel Roanoke. The winner will receive a scholarship to be used for additional professional education and The Medical Society of Virginia is one of several organizations being invited to make a contribution.

Mr. Osburn indicated that a contribution in any amount would be welcomed by the Cancer Society, although $1,000.00 could be considered the target.

Everyone agreed that the program has much to recommend it. It was pointed out, however, that the Society is already heavily committed for 1974 and must exercise great care from this point on. A motion by Dr. Davis provided that the Miss Hope Program receive the Society's endorsement but that no cash contribution be made this year. *The motion was seconded and adopted.*

Members' Retirement Program

During its meeting of April 8, 1973, Council adopted a resolution making it possible for the three individual Trustees of its members' retire-

ment program to be replaced by a Corporate Trustee. At that time it was believed that the United Virginia Bank/First & Citizens National, Alexandria, would be the Corporate Trustee. There has been a change, however, and it is now definite that the Bank of Virginia-Potomac will be the Corporate Trustee. Consequently, another enabling resolution is required.

Council agreed and the following resolution was adopted:

"RESOLVED, that

"(1) The Medical Society of Virginia Members' Retirement Plan Trust be amended so as to replace the three individual Trustees with a Corporate Trustee, the Bank of Virginia-Potomac;

"(2) The Medical Society of Virginia Members' Retirement Plan A be amended to conform to Internal Revenue Ruling 71-461;

"(3) The revised Trust and Plan be submitted to the Internal Revenue Service for approval; and

"(4) A liaison committee be appointed to act as advisors to the Trustee and to the Administrator and to provide periodic reports to the Society regarding The Medical Society of Virginia Members' Retirement Plans."

Amendment to Constitution and By-Laws

Dr. Davis reported that members of the House of Delegates in his District were anxious to amend Section 6 of Article VI of the By-Laws in such manner as to read as follows:

"Councilors shall be elected at the annual meeting for a term of two (2) years, those from odd numbered Congressional Districts on odd years, and those from even numbered Congressional Districts on even years. The Delegates of each District shall hold a meeting, called and presided over by the Councilor, some 7 to 30 days before the beginning of each Annual Meeting. In addition to any other business which the delegation may desire to conduct, the following shall be mandatory:

1. Nomination of District Councilor, if indicated.
2. Nomination of Vice-Councilor.
3. Election of Chairman of District delegation for the Annual Meeting. The Councilor will usually serve in this capacity but it will be the prerogative of each delegation to elect their Chairman.
4. Election of the representative for the Nominating Committee.
5. Election of the representative for the Reference Committees.
6. Election of three nominees for the Board of Medical Examiners, if indicated.

"The preceding nominees and any changes which may have occurred in the roster of the qualified Delegates and Alternate Delegates from the District shall be forwarded to the Executive Vice-President promptly; so that these lists can be in the hands of the Speaker before the Annual Meeting.

"At the first meeting of the House of Delegates, the Speaker shall recognize the Chairman of the Delegates from each District who has previously been elected by the Delegates. At the second meeting of the House of Delegates, the Chairman will report to the Speaker his District nomination for Councilor when appropriate.

"Should there be a vacancy on the Council from any District, the House shall elect a Councilor from that District on nomination from the Speaker after consultation with the District Delegates."

During the discussion, a question was raised as to whether a thirty-day limit on District meetings is advisable—particularly since several delegations meet as much as sixty days prior to the Annual Meeting. It was the consensus that the

time factor could be resolved without any great difficulty.

It was then moved by Dr. Davis that the proposed amendment be placed in the hands of the Judicial Committee for its consideration and that it be requested to report its recommendations back to Council. *The motion was seconded and adopted.*

Executive Committee

Dr. Martin reported that the Executive Committee had under consideration two matters which had been referred to it by Blue Shield of Virginia. The Executive Committee was consulted because of the time factor involved. The matters under consideration had to do with the scientific validity of a particular metabolic and genetic institute and a question as to whether breast implants should be considered cosmetic surgery.

Dr. Martin indicated that the Committee is in the process of obtaining expert opinion on these matters at the present time and a report will be provided at a later date.

Continuing Education and Relicensure

Council was advised that the Board of Medicine will sponsor legislation relating continuing education to relicensure. Considerable disappointment was expressed in this action—particularly since The Medical Society of Virginia had rejected proposals which would make continuing education mandatory for both licensure and membership in the Society.

Travel Program

Dr. Hill reported that he had been approached concerning the possibility of having the Society sponsor a trip to Spain late in 1974. This would be in addition to the regular two-week INTRAV tour—which this year will visit three European countries.

Dr. Hill expressed the opinion that, under the circumstances, it might be better for the Society to concentrate on the two-week trip rather than spreading itself too thin. A travel program for 1975 will be presented to Council later in the year.

Congressional Luncheon

Everyone agreed that the Congressional luncheon should be held once again—either in late April or early May. *A motion to this effect by Dr. Weyl was seconded and adopted.*

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:

JOHN A. MARTIN, M.D., *President*

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William J. Reardon, M.D., *Chairman*, Falls Church
Walter A. Eskridge, M.D., Parksley
Donald Fletcher, M.D., Atlantic
A. Broaddus Gravatt, M.D., Kilmarnock
Edgar N. Weaver, M.D., Roanoke

Liaison with State Board of Medicine and State Board of Pharmacy

Lloyd T. Griffith, M.D., Mount Holly
A. Lynn Beavers, M.D., Roanoke

Medical Service Section

Child Health

Thomas S. Chalkley, M.D., *Chairman*, Richmond
Robert M. McDonald, M.D., Harrisonburg
Harry D. Cox, M.D., Portsmouth
William D. Liddle, M.D., Fredericksburg
Jefferson D. Beale, Jr., M.D., Danville
W. Glenn Hardy, M.D., Bedford
Kathryn D. Hill, M.D., Virginia Beach
Julia E. Edmunds, M.D., Clifton Forge
Patricia Hunt, M.D., Richmond
Robert L. Bregman, M.D., Alexandria
Douglas E. Pierce, M.D., Roanoke

Cancer

Claiborne W. Fitchett, M.D., *Chairman*, Norfolk
William F. Enos, M.D., Fairfax
Walter C. Fitzgerald, M.D., Danville
W. W. Old, III, M.D., Lexington
R. S. Boyd, M.D., Winchester
J. Shelton Horsley, III, M.D., Charlottesville
W. S. Johnson, M.D., Roanoke
Walter Lawrence, M.D., Richmond
Saul Kay, M.D., Richmond
Fred T. Given, Jr., M.D., Norfolk
W. H. Morris, Jr., M.D., Lynchburg
Marvin N. Lougheed, M.D., Roanoke

Maternal Health

Leo J. Dunn, M.D., *Chairman*, Richmond
William N. Thornton, Jr., M.D., Charlottesville
Frank G. Turner, M.D., Danville
Francis R. Payne, Jr., M.D., Petersburg
Rufus P. Ellett, Jr., M.D., Roanoke
Claude A. Smith, M.D., Norfolk
Theron H. Haas, M.D., Radford
William L. Driskill, M.D., Lynchburg
Harold D. Gabel, M.D., Richmond
Christopher Murphy, Jr., M.D., Alexandria
Herbert A. Claiborne, Jr., M.D., Richmond
Charles B. Marshall, M.D., Martinsville
Thomas P. Caine, Jr., M.D., Newport News

NOTE: Numbers after names indicate term of office.

Sports

Robert P. Nirschl, M.D., *Chairman*, Arlington
Gervas S. Taylor, Jr., M.D., Norfolk
Richard H. Fisher, M.D., Salem
Frank C. McCue, III, M.D., Charlottesville
Oscar W. Ward, Jr., M.D., Phoebus
J. Thomas Hulvey, M.D., Abingdon
Joel A. Mason, M.D., Norfolk
James B. Jones, M.D., Lynchburg
Richard Bullock, M.D., Blacksburg
H. C. Alexander, III, M.D., Roanoke
Louis P. Ripley, M.D., Roanoke

Conservation of Sight

W. Conrad Stone, M.D., *Chairman*, Roanoke
Harry B. Taylor, Jr., M.D., Norfolk
Frank I. Hobbs, M.D., Lynchburg
David W. MacMillan, M.D., Richmond

Environmental and Occupational Health

Edward S. Ray, M.D., *Chairman*, Richmond
William S. Dingledine, M.D., *Vice Chairman*, Richmond
James M. MacMillan, M.D., Richmond
R. F. Sappington, Jr., M.D., Alexandria
Charles S. Sale, M.D., Norfolk
Maurice M. Miller, M.D., Norfolk
William F. Schmidt, M.D., Bristol, Tennessee

Mental Health

John R. Saunders, M.D., *Chairman*, Richmond
W. D. Buxton, M.D., Charlottesville
Emory F. Hodges, Jr., M.D., Alexandria
R. Terrell Wingfield, M.D., Lynchburg
Robert H. Thrasher, M.D., Norfolk
Asad Masri, M.D., Petersburg
Morgan Scott, M.D., Radford
John O. Hurt, Jr., M.D., Roanoke

Rural Health

Julian L. Givens, M.D., *Chairman*, Independence
Harold W. Felton, M.D., Deltaville
O. Hunter McClung, M.D., Lexington

Conservation of Hearing

George H. Williams, M.D., *Chairman*, Richmond
Alvin B. Mirmelstein, M.D., Newport News
M. M. Mackay, M.D., Clifton Forge
Cary N. Moon, Jr., M.D., Charlottesville
Charles S. Sale, M.D., Norfolk

Rehabilitation

Alexander McCausland, M.D., *Chairman*, Roanoke
J. Treacy O'Hanlan, M.D., Waynesboro
Reno R. Porter, M.D., Richmond
David K. Webster, M.D., Staunton
W. W. Walton, M.D., Pulaski
Hunter S. Jackson, M.D., Richmond
William D. Rusher, M.D., Richmond
G. S. Fitz-Hugh, M.D., Charlottesville
Carney C. Pearce, Jr., M.D., Petersburg
William Orr, M.D., Fishersville
Frank C. McCue, M.D., Charlottesville
Robert J. Faulconer, M.D., Norfolk
Richard H. Lowe, Jr., M.D., Roanoke
Frank A. Strickler, M.D., Roanoke

Venereal Disease Control

Harry Pariser, M.D., *Chairman*, Norfolk
E. Randolph Trice, M.D., Richmond
Charles M. Caravati, Jr., M.D., Richmond
Ralph R. Landes, M.D., Danville
Wallace E. Baker, M.D., Springfield
Nelson S. Teague, M.D., Roanoke

Alcoholism—Subcommittee (Mental Health)

William S. Sloan, M.D., *Chairman*, Petersburg
W. D. Buxton, M.D., Charlottesville
Ebbe C. Hoff, M.D., Richmond
Edward C. Wilson, M.D., Charlottesville

Drug Abuse—Subcommittee (Mental Health)

Merritt W. Foster, Jr., M.D., *Chairman*, Richmond
John H. Furr, M.D., Norfolk
Robert T. Hyde, M.D., Stuarts Draft

Emergency Medical Services

William A. Dickinson, M.D., *Chairman*, Virginia Beach
William J. Weaver, M.D., Alexandria
Richard S. Crampton, M.D., Charlottesville

Education Section

Continuing Education

Charles Davis, M.D., *Chairman*, Norfolk
David B. Walthall, III, M.D., Richmond
James R. Scholten, M.D., Norfolk
James M. Moss, M.D., Arlington
William H. Barney, M.D., Lynchburg
Harry C. Kuykendall, M.D., Alexandria
George J. Carroll, M.D., Suffolk
Hannibal E. Howell, M.D., Hampton
T. Winston Gouldin, M.D., Norfolk
Charles L. Crockett, Jr., M.D., Roanoke

Health Careers

Fred J. Spencer, M.D., *Chairman*, Richmond
William M. Massie, M.D., Lynchburg
William H. Sipe, M.D., Newport News
Sam D. Graham, M.D., Staunton

Program

Duncan S. Owen, Jr., M.D., *Chairman*, Richmond
Gene E. Clapsaddle, M.D., Vinton
John A. Owen, Jr., M.D., Charlottesville
Edward D. Levy, M.D., Norfolk

Regional Medical Program

Frank Alton Wade, M.D., *Chairman*, Salem
Anthony J. Munoz, M.D., Farmville
W. J. Hagood, M.D., Clover
David W. Scott, Jr., M.D., Fredericksburg
Robert K. Maddock, M.D., Norfolk
K. K. Wallace, Jr., M.D., Virginia Beach
W. M. Wallenborn, M.D., Charlottesville
W. W. Walton, M.D., Pulaski
David M. Brillhart, M.D., Abingdon
Ira D. Godwin, M.D., Fairfax

Bicentennial of American Revolution

Harry J. Wartben, M.D., *Chairman*, Richmond
Malcolm H. Harris, M.D., West Point
E. Randolph Trice, M.D., Richmond

Medical and Health Care Financing Section

Peer Review

Robert L. A. Keeley, M.D., *Chairman*, Roanoke
Robert K. Maddox, M.D., Norfolk
Frank C. Robert, M.D., Hampton
Thomas L. Gorsuch, M.D., Waynesboro
Joseph H. Early, Jr., M.D., Hillsville
William M. O'Brien, M.D., Charlottesville
Frank G. Turner, M.D., Danville
Howard O. Mott, M.D., Arlington

Insurance Review

Beverley B. Clary, M.D., *Chairman*, Richmond
Joseph C. Parker, M.D., Richmond
Neil Callaban, M.D., Portsmouth
Frank S. Beazlie, Jr., M.D., Newport News
David W. Scott, Jr., M.D., Fredericksburg
P. G. Dillard, Jr., M.D., Lynchburg
William C. Barr, M.D., Richmond

Liaison to Blue Shield of Virginia (Blue Shield Directors)

William S. Terry, M.D. (1) Portsmouth
K. K. Wallace, Jr., M.D. (2) Virginia Beach
Thomas W. Murrell, Jr., M.D. (3) Richmond
William R. Hill, M.D. (4) Richmond
John R. Saunders, M.D. (5) Lynchburg

Woman's Auxiliary . . . .

International Health

Our State Chairman for International Health, Cyndy Bernart (Mrs. Wm. F.), has sent some information about things that are going on and are of interest to us in this field. She notes that "SKIP (Scholarships for Kids of International Physicians) was founded to assist physicians who are willing to practice medicine in areas of need where there are no schools to send their children. With our help of $25.00 to $30.00 a month for each child, the M.D.'s can go into the rural areas of their countries and their children can remain in the cities for schooling.

Five children in India and five in the Dominican Republic are being supported through the generosity of Auxiliary members across the nation. There is a waiting list of more children.

In 1972 the Virginia Auxiliary raised $360 for a full scholarship for Isabel Alicia Cornelio of the Dominican Republic. In 1973, only $160 was raised. In 1972 ours was the *first* adoption by a state group.

SKIP has had some growing pains in its infancy and the causes are being corrected. There *is* sometimes a problem of communication with the families of recipients of scholarships. This was particularly true in the Dominican Republic. Many of them do not speak or write English and this creates a real problem. Because of the misunderstanding generated by the communications problem, scholarships to the Dominican Republic have been discontinued, even though the need there is great. At the present time SKIP is concentrating their efforts in India. If Virginia continues its support of a child, MAP (Medical Assistance Program) will reassign a child in India.

The International Book Project has been a special interest of the Northampton-Accomack Auxiliary. Harriet Van Meter (Mrs. J. F.), Executive Director, writes about the program: "Unless you are a fairly practical and reasonably unselfish person you will not be a doctor's wife for long. (I know, I've been one for forty years!) This is why I think you will be interested in this international health program that makes use of things we no longer need.

With all the wastebaskets we empty every week, it is hard to realize that the vast majority of countries lack books. Few of the less developed publish books. Almost none publish professional journals. (People have to learn English in order to go to college!) Yet to live in a healthy world—that we must share with them—children need education and adults need to keep theirs current.

We get requests for books from people in about sixty countries. From all over the USA, Canada, and Europe people write us offering to send directly what they have available. We tell them where to send and how. Person to person book-sharing not only results in education but frequently in friendships.

Some people prefer to help in other ways. They ask the Project to provide and mail books for them—either in their names as donors, or anonymously. They help the entire effort by sending tax deductible donations.

IBP is a volunteer-run and volunteer-supported agency. It has no elaborate offices, no high salaried executives (the Director is a full-time volunteer), no expensive television promotion, no travel and convention budget. But it builds people: doctors, nurses, engineers, teachers, accountants, farmers, veterinarians, businessmen, scientists, homemakers—some 300,000 of them—for less than most small towns spend on their school libraries.

With more money much more could be done. Volunteers do carry the bulk of the work of the Project. But volunteers cannot screen and classify requests, match offers with needs, write publicity, answer the thousands of questions asked by people here and abroad. A small full-time staff is necessary, and so is a lot of postage.

As doctor's wives we have many contacts. There is much that we can do to support and publicize this international need for materials

that would otherwise become part of our pollution. We can do more than keep people alive. We can keep them living. Please help. Send your books and your journals. Tell your friends!" The International Book Project, Inc. 17 Mentelle Park, Lexington, Kentucky 40502.

Did You Know That in some countries books are so scarce and costly that a textbook may cost as much as the annual per capita income;
millions of people never own a book
students must learn by rote
all reading must be imported

Did You Know That
each year more printed pages are destroyed in America than are printed in any other country.
you can improve the world's ecology by sending books abroad

Did You Know That in many countries
English is required in schools. For lack of current scientific and professional publications, already-trained people lose their skills. Many people feel that using an international language would stimulate science, commerce and even friendship.

What Should Be Sent

If someone wants a book here, someone wants it abroad. Easy books for beginning readers, leisure and inspirational books for improving skills, professional materials for maintaining self reliance. People want information, recreation and inspiration. Modern texts of all kinds, current reference works, good maps, helps for the handicapped, scientific, professional, business publications, how-to-do-anything, stories for children and for adults, arts and crafts.

International Book Project Memorials honor anyone. Each ten dollar gift sends forty pounds of books abroad. The family of the honored person is notified. Memorial libraries are sometimes founded. Memorials extend the usefulness of life far into the future.

Doctors' Wives Help Solve Aid Dilemma

What help is available on medical bills for the marginal income family—earning just enough to exist but too much to qualify for welfare programs?

Physicians' wives of Fairfax County asked the same question several years ago—then went to work to answer it. The members of the Fairfax County Medical Society's Woman's Auxiliary, working with the society set up MEDCAP, a cooperative venture with the Fairfax County Action Program. MEDCAP operates like this:

An auxiliary volunteer is on duty each weekday morning to take phone calls from the community action program's field workers and other referral sources about needy patients. After getting necessary information about the patient's needs, the volunteer calls the office of a participating physician to arrange an appointment for the patient. The doctors provide free treatment; patients pay a maximum fee of a dollar for MEDCAP service, if they can afford it.

Auxiliary members also locate additional resources such as eye glasses and hearing aids, arrange for drugs and payment of hospital bills, and provide transportation when necessary.

"Committee members find they are increasingly involved in informational and education functions. We help interpret the aims of the medical profession to the community—and the special problems of the medically indigent to the physicians. Our work has led to auxilians being invited to serve in a wide variety of community activities related to health care."

After six months of operation, MEDCAP participants won three of four community service awards from the Health and Welfare Council of Metropolitan Washington; one went to the medical society, one to the auxiliary and one to the Fairfax anti-poverty program.

Support for MEDCAP has come from individuals, groups and other health care providers. Among the donations have been a woman's monthly stock dividends and the collection from a vacation Bible school.

(AMA News Features-American Medical Association)

Editorial....

The Community Hospital's Governing Board

IT IS ONLY PROPER that the final responsibility for the community hospital, run non-profit for the exclusive welfare of the community's sick, reside in the hands of its responsible members drawn from all walks of life. Historically, these members were chosen from the socially prominent and affluent.

In days more halcyon, the governing board was typically composed of genteel elderly ladies, much of whose meetings was devoted to sipping their tea. Matters of over-riding financial and professional and legal import were few. The male financial and professional leaders were too busy for such activity, and the needs for their skills scarcely arose anyway. The administrator of such a hospital was usually called the superintendent, and, more often than not, was some equally genteel maiden-lady nurse for whom the rigors of bed-side nursing exceeded the vigors of her age and arches. She imparted the genteel touch with a personal greeting to each newly admitted patient, kept the hospital fare good to excellent, and the premises immaculate as her very own. Pinkerton's guards were far in the future.

And then came the change. More and more people. Medicine vastly more complex and expensive. Hospital insurance with its third parties. Hospital populations burgeoned to fill the hospital beds. The phony politician lit upon medical care as his gimmick. Health and health care were proclaimed as everyone's rights. The hospitals became big business, and genteel old ladies were not enough.

The university-trained hospital administrator came into his own. He knew some law, business practices, principles of purchasing, statistics, and the like. He could control the destinies of people under him who knew infinitely more about a given subject than he. The tone of the hospital bore the imprint of the forceful administrator.

The governing board also changed. Tea-sipping ladies were joined by the captains of local industry and businessmen. The meetings were no longer a social exercise, but full of chores and thorny decision-making.

A governing board so composed recognizes only the economics of the market-place, where the dollar sign reigns. For the institution to remain solvent, this kind of economics has to hold sway. But it needs no imagination to conjure up the impasses between a board of this type and the good physician, to whom the economics of the market-place runs a poor second to the welfare of his patient.

For this reason, a governing board without representation of physicians with power to vote can be a deadly instrument indeed. While medical care

is too important to be left to physicians, it is even worse to be left to laymen. A board of hospital managers without doctors is as senseless as a board of bank directors without businessmen.

The presentation of the medical viewpoint to the governing board is too important to be left to the unreliable vehicle of the hospital administrator, who of necessity is primarily a businessman who must keep his enterprise solvent. If your governing board is without doctors, make it your first order of business to get doctors on the board. You owe this action to your patients.

Very few laymen of the governing board speak our language. The usual man of the market-place just can't learn it.

CHRISTIAN V. CIMMINO, M.D.

HEW Is At It Again

WHENEVER A NEW DIRECTIVE COMES from the Department of Health, Education and Welfare one gets the impression that nothing else can possibly surpass it in ineptitude, but promptly another one arrives that tops the last.

On December 19, 1973, Secretary Weinberger, in testifying before the Health Subcommittee of the Senate State Committee on Labor and Public Welfare, proposed to limit reimbursement for prescription drugs under Medicare and Medicaid "to the lowest cost at which the drug is generally available unless there is a demonstrated difference in therapeutic effect." For a moment the final clause "unless there is a demonstrated difference in the therapeutic effect" gave a fleeting glimmer of hope but Secretary Weinberger snuffed it out a moment later by saying that the Food and Drug Administration could assume responsibility for the uniform quality, efficacy and equivalency of all marketed drugs. This would be another example of calling on a boy to do a man's work.

The Pharmaceutical Manufacturers Association has pointed out, in view of the large number of drugs and manufacturers, and the FDA's limited capabilities, the agency cannot make these guarantees. The Department of Defense has discovered the unequal performances of different drugs by various producers. For the period 1962 through 1971, the Military Defense Supply Agency, by far the largest single purchaser of pharmaceuticals, rejected 42 percent of drug product samples and 45 percent of production facilities inspected were given failing marks. The same manufacturers continue to operate and produce the same drugs rejected by the Department of Defense, ostensibly at least, with the approval of FDA. Could FDA possibly cope with the added burden Secretary Weinberger would place upon it?

We in Virginia had a recent example of FDA having to reverse itself following an ill-advised decision to withdraw sulfathaladine from the market. Many man-hours of effort were required by Dr. Charles E. Davis, of Norfolk,

to remedy this situation. Physicians should not be diverted from their primary function—the care of the sick—to having to correct blunders made by FDA.

We are in accord with the Pharmaceutical Association in stating that "Physicians, pharmacists, and the general public would agree that the government should not interfere with professional judgment in choosing a particular drug product and identifying a preferred source. In the last analysis, only the prescribing physician is in a position to know which drug products have performed satisfactorily for his patients." The question also arises as to who would pay the additional cost if a physician should insist on prescribing a more expensive drug? If the patient were held responsible, this charge would not be consistent with the principles of the Medicare and Medicaid programs.

Perhaps HEW would permit a physician to prescribe a higher priced drug if he gave the particulars that prompted him to do so. A few time-consuming encounters on this order would doubtless discourage the most dedicated physician from exercising his own professional judgment and HEW ultimately would win out. It is significant that Dr. Charles Edwards, Assistant Commissioner of HEW, who later testified on behalf of Secretary Weinberger before the Health Subcommittee on February 1, stated HEW, while adhering to the original proposal, would need additional time to implement some of the recommended measures.

More could be written about the latest excursion of HEW into the field of medicine, but suffice it to say, if Secretary Weinberger succeeds in the proposal it will prove to be one additional nail in the coffin of independent American medicine.

H. J. W.

The AMA Speaks Out

A STATEMENT made at a press conference on January 25, by AMA President Russell B. Roth, M.D., and Board of Trustees Chairman, James H. Sammons, M.D., appears in this issue of the Virginia Medical Monthly. (See page 210) Every member of The Medical Society of Virginia is urged to read this statement.

The editorial immediately above this item, captioned "HEW Is At It Again" was prepared two days before the writer learned about HEW's latest absurdity. Yes, they have "topped it" again, within 48 hours. And HEW doubtless will continue to do so unless a halt is called. There is a limit beyond which an individual, or an organization, or a profession, should not submit to further badgering. The medical profession has long since passed this point, and the writer is gratified the officers of the AMA realize it, and are now willing to take this stand. The AMA appears to be on firm ground and there is every reason to believe the medical profession is behind it. More power to the AMA.

H. J. W.

Editor's Note: On February 11, Secretary Weinberger backed down and stated he would not pursue his proposed regulations requiring preadmission certification.

News . . . .

Calendar of Events

CONTINUING EDUCATION PROGRAMS SPONSORED BY UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE

Surgical Treatment of Coronary Artery Disease—King's Daughters' Hospital—Staunton—April 2, 1974.

Angiographic Diagnosis in Gastrointestinal Hemorrhage—Waynesboro Community Hospital—Waynesboro—April 23, 1974.

Coronary Care—Southwest Virginia Conference Circuit—April 24-25, 1974.

Coronary Bypass Surgery and Selection—Southwest Virginia Conference Circuit—April 24-25, 1974.

Current Concepts and Transplantation—King's Daughters' Hospital—Staunton—May 7, 1974.

Rational Use of Oxygen as a Drug—Langley Air Force Base—May 16, 1974.

Experimental Peer Review of the Evaluation and Treatment of Gastric Ulcer Disease—Waynesboro Community Hospital—Waynesboro—May 28, 1974.

CONTINUING EDUCATION PROGRAMS SPONSORED BY MEDICAL COLLEGE OF VIRGINIA

Pathology Board Review of Clinical Chemistry—Richmond—March 20-23, 1974.

Charles W. Thomas Lecture—Division of Connective Tissue Disease—George Ben Johnston Auditorium—Richmond—April 16, 1974.

Hand Seminar—Divisions of Orthopedic and Plastic Surgery—Sanger Hall—Richmond—April 19-20, 1974.

Pediatrics Day—Department of Pediatrics—George Ben Johnston Auditorium—May 10, 1974.

Visiting Professor in Infectious Diseases—Richmond—May 13-14, 1974.

OTHER EVENTS

Tri-State Medical Association—Annual Meeting—Hotel Roanoke—Roanoke—March 21-24, 1974.

Virginia Society for Prevention of Blindness—Annual Meeting—Hotel John Marshall—Richmond—March 29, 1974.

Annual Clinical Conference—Sponsored by Louise Obici Memorial Hospital—National Guard Armory—Suffolk—April 10, 1974.

Joint Cardiac Symposium for Physicians—Heart Association of Northern Virginia—Marriott Twin Bridges Motor Hotel—Arlington—April 17, 1974.

National Conference on Rural Health—Sponsored by AMA—Detroit-Hilton Hotel—Detroit, Michigan—April 25-26, 1974.

Head and Neck Anatomy—A Continuing Education Course sponsored by Department of Anatomy, School of Medicine, East Carolina University—Greenville, North Carolina—May 28-31, 1974.

Seaboard Medical Association—Annual Meeting—Holiday Inn—Nags Head, North Carolina—June 13-16, 1974.

AMA Annual Meeting—Chicago—June 22-27, 1974.

New Members

The following members were admitted into The Medical Society of Virginia during the month of December:

Leigh Oliver Atkinson, M.D., Salem
Daniel Francis Cowan, M.D., Norfolk
Miguel H. Gonzalez, M.D., Camp Springs, Maryland
Randall Leon Harrington, M.D., Reston
Jacob Haun, Jr., M.D., Richmond
Ann M. Lux, M.D., Vienna
Elizabeth Sprague Mann, M.D., Charlottesville
William Doyle Merkel, M.D., Portsmouth
Ahmed Abdelazim Mohsen, M.D., Winchester
John Robert Morris, M.D., Virginia Beach
Walter N. Rabhan, M.D., Richmond
Watson Day Reid, M.D., Reston
Thomas Samuel Renshaw, M.D., Alexandria
James Parsons Simsarian, M.D., Arlington
Barry Stewart Strauch, M.D., Arlington
Kentaro Tsueda, M.D., Richmond
Wayne M. Weaver, M.D., Weyers Cave
Joseph Langham Yon, M.D., Portsmouth

The following students from the Medical College of Virginia have also been received into membership:

Jeffrey S. Blinder
James William Bowles
Joseph V. Boykin, Jr.
Don Wayne Bradley
Robert Harold Brewer
Stephen David Brummer
Richard Alan Chefetz
Robert Marshall Chmieleski
Robert J. Cohen
David Michael Cundiff
Christopher Kenyon Davis
William Edgar Duncan
James Travers Edwards, Jr.
Ponziano Paul Ferraraccio
Kenneth J. Folsom
Robert Middleton Foster, Jr.
Joseph Salo Galeski, III
Sidney Lee Gilbert
Kathryn Eileen Grant
David Nathan Greenblum
Tibor H. Ham
John Ashby Harler
Karen Lee Hermansen
Forrest DeWitt Holden
Frankie Ann Holmes
David Sheldon Hyman
David Lawrence Irvine
Edward Joseph Jesneck
Anne Herndon Jones
Martha Ann Key
Kichael Kedrick Kyles
Michael James LaPenta
Kerry Randall Lewis
Eileen Cantor Lubin
James L. McCoy
James Lund McDaniel
Max Sam Maizels
Roger Clay Merrill
Gary Price Miller
Keith Thomas Oldham
Ronald B. Overstreet
R. Macon Phillips, Jr.
Kent Milton Plowman
Philip Salvatore Rasulo
Donald W. Richardson
Walter James Robison, Jr.
Marsha Milburn Rohrer
William J. Schermer
Richard Alan Schlessel
Robert Alan Shanik
Carolyn Ann Smith
Dennis W. Smith
Thomas A. Smith
Elizabeth Anne Spitzer
Sallie Hart Stone
David Carter Tabor
Frank Loges Virgili, Jr.
Nahum Vishniansky
Victoria Rose Williams
Earl K. Wilson
Ho Hai Woo
Thomas Howard Young

Fredericksburg Medical Society.

Dr. Lawrence E. Southworth has been installed as president of this Society for 1974, with Dr. F. Baldwin Herrington elected as

president-elect, and Dr. Michael J. Olichney as secretary-treasurer.

Southside Virginia Medical Society.

1974 officers for this Society are: President, Dr. James A. Kirkland, Emporia; vice-presidents, Dr. A. M. Masri, Petersburg, and Dr. James S. Harris, Blackstone; secretary-treasurer, Dr. Charles H. Crowder, Jr., South Hill; and chairman of the steering committee, Dr. Henry M. Snell, Petersburg.

Stuart Medical Society.

Dr. Samuel P. Massie, Stuart, is president of this Society for 1974, and Dr. Ralph Y. Kahn, Martinsville, is secretary-treasurer.

Tazewell County Medical Society.

The following officers have been installed for 1974: president, Dr. William Strader, Richlands; vice-president, Dr. Eduardo Plagata, Tazewell; and secretary-treasurer, Dr. Robert A. Abernathy, Richlands.

Resolutions for Dr. McCausland.

WHEREAS, Dr. Alexander McCausland has served with distinction as Delegate to the American Medical Association, and has declined to stand for reelection, and

WHEREAS, in addition, Dr. McCausland has for many years served as President of the Roanoke Academy of Medicine, President of The Medical Society of Virginia, and in activities on behalf of his profession and community, well known, and too numerous to list fully, and

WHEREAS, no physician in Virginia, and perhaps in contemporary American medicine has given more, and worked more diligently to preserve the freedoms and traditions which have made American medicine preeminent, and

WHEREAS, Dr. McCauslands' skill, and courage, his many admirable qualities of heart and mind, vast experience, and substantial physical endurance, exercised in single-minded fashion for the well-being of the profession of medicine, requires recognition, therefore be it

RESOLVED, that the Roanoke Academy of Medicine express its deepest appreciation of Dr. McCausland's services to the State of Virginia, the profession of medicine, the Roanoke Academy of Medicine, and The Medical Society of Virginia. The Academy is confident that he will continue to make significant contributions to his profession, and in service to his patients, for many years to come. The Academy directs that a copy of this resolution be entered in the minutes of the Roanoke Academy of Medicine, and be published in the Virginia Medical Monthly.

THE PRESIDENT, OFFICERS, and
BOARD OF DIRECTORS OF THE ROANOKE ACADEMY.

Dr. L. C. Strong,

Norton, has been selected as the Outstanding Citizen of the Year in Wise County. The announcement was made at the annual banquet sponsored by the Wise County Chamber of Commerce. He is a past president of the Wise County Medical Society, the Wise County Cancer Society and the Wise County Shrine Club. Dr. Strong is a 32nd degree Mason and is active in the National Rifle Association and the Antique Automobile Club.

Dr. Robert L. Cassidy,

Recently of Culpeper, has been appointed Eastern Virginia Medical School Professor and Chairman of the Department of Family Practice. So far as can be determined the EVMS is the only medical school which requires a medical undergraduate clerkship in family practice.

Hume Transplantation Symposium.

The David M. Hume Memorial Symposium on Transplantation will be held at the Medical College of Virginia, Health Sciences Division of the Virginia Commonwealth University in Richmond on April 24 & 25, 1974. Twenty-two speakers from this country and abroad will discuss basic and clinical topics in transplantation. Interested physicians are invited to attend but registration in advance is necessary.

Further information may be obtained from: Hume Transplantation Symposium, Box 786, Medical College of Virginia, Richmond, Virginia 23298

Eli Lilly Gift.

The Eli Lilly and Company Foundation of Indianapolis has made an unrestricted gift of

$25,000 to the Eastern Virginia Medical School.

American Association of Medical Assistants.

The 17th annual convention of the American Association of Medical Assistants was held in Washington, D. C., October 23-27, 1973, with 1,027 registrants from the United States and international guests from Great Britain and Canada. Educational sessions included panels on health care legislation, shock trauma, cardiac resuscitation, office planning and design, and practical applications of computerized medicine.

Tours were available to various national landmarks, the Kennedy Center for the Performing Arts, Mount Vernon and the State Department. Approximately 800 members of AAMA and their guests attended a White House reception hosted by Mrs. Nixon who shook hands with all those in attendance.

Dorothy Hadley of the Fairfax Chapter of AAMA, Virginia Society, took the first place award in the Arts & Crafts competition. We can all be proud of the Virginia Society of AAMA which won two awards for increase in membership; a third place award for numerical increase, and also a third place award for the greatest percentage increase in membership.

Dorothy Sellars of Richmond's Old Dominion Chapter, who was Vice-Chairman of the 1973 Convention, was not only elected to the Nominating Committee for 1973-4, but also was appointed to the National Membership Committee. Macel Wisecarver of the Virginia Beach Chapter of AAMA was also appointed to the Membership Committee.

Two medical assistants from Virginia, Barbara Bunting of Springfield and Glenda Hampton of Alexandria, were among the 356 who successfully completed the 1973 Certification Examination for Medical Assistants. They received their certificates and pins at the annual CMA dinner during the convention.

Two of the Virginia State Advisors, Dr. Ralph E. Hagan of Richmond and Dr. Clarence B. Trower of Norfolk, served as escorts in the Parade of State Presidents on the last evening of the 17th annual AAMA convention. We, in Virginia, can all be proud of the role that our Virginia Medical Assistants played in making this first tri-hosted AAMA convention a success.

The American Board of Family Practice

Announces that it will give its next two-day written certification examination on October 19-20. It will be held in five centers geographically distributed through the United States. Information may be obtained from Nicholas J. Pisacano, M.D., Secretary, American Board of Family Practice, University of Kentucky Medical Center, Annex #2, Room 229, Lexington, Kentucky 40506.

American College of Physicians.

The 55th Annual Session of the College will be held in New York City April 1-4, with scientific sessions at the New York Hilton and Americana Hotels. Theme of the 1974 session will be "Humoral and Chemical Mediators in Human Biological Systems. Special lectures, panel discussions and informal, unstructured "Meet the Professor" sessions will be held with emphasis on the theme subject. Twelve distinguished medical scientists are scheduled to present State of the Art lectures and six programs will be telecast via closed circuit from Cornell Medical College.

Dr. Jean L. Harris,

Richmond, has been named at the Medical College of Virginia to direct the Center for Community Health. She is a graduate of the College in 1955. For two years, Dr. Harris was chief of the Bureau of Resources Development in Washington, D. C., and she has served as executive director of the National Medical Association Foundation since 1969.

A New Medical Foundation,

Named American Hepatic Foundation, has been created as a non-profit corporation under the laws of the State of North Carolina. The

purposes of this corporation are (a) to receive and maintain a fund or funds and apply from time to time all or any part thereof and/or the income therefrom to encourage and foster research in the field of hepatic physiology, diseases of the liver, and such other medical research as may be approved from time to time by the directors of the Corporation. To further by clinical study, laboratory research, publication, and teaching the knowledge of diseases of the liver and the application of such knowledge to the prevention and treatment of these diseases. (b) To receive donations from donors in cash or in other property and to hold, manage, administer and pay out said funds or property in furtherance of the purposes set forth in above.

Dr. Abdullah Fatteh is president of the Foundation. Further information may be obtained from him c/o the Department of Pathology, School of Medicine, East Carolina University, P. O. Box 2701, Greenville, North Carolina 27834.

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Obituary . . . .

Dr. Henry Clay Smith,

Burkeville, died January 10. He was ninety-five years of age and a graduate of the Medical College of Virginia in 1911. Dr. Smith practiced for sixty-one years in the Crewe-Burkeville area before his retirement in 1972. He was mayor of Crewe more than half a century ago. Dr. Smith had been a member of The Medical Society of Virginia for forty-two years.

A son and a daughter and three grandchildren survive him.

Dr. Kaufman.

Dr. Kasper Kaufman of Wakefield died September 25, 1973. He was a graduate of the

Middlesex University School of Medicine of Massachusetts in 1937, and had served with the Medical Corps during World War II as a Major. He had practiced in Wakefield for about twenty-five years and for the past year and a half had been an Emergency Department Physician at Petersburg General Hospital. Dr. Kaufman was a Past President of the Wakefield Ruritan Club and the Fourth District Medical Society. He was a member of The Medical Society of Virginia for twenty-eight years.

Dr. Kaufman was an unusual man and physician. He lived and practiced his art with a quiet dignity that would be a credit to any man. His implicit trust in his fellowman played an important role in providing a steadfast, even-tempered personality. He was a jovial, amiable and compassionate man. He was tolerant and almost never critical of others. Instead, a good word for others was a ready utterance. The niche he had carved and earned in the Emergency Department will be most difficult to fill.

Dr. Kaufman is survived by his wife, a son and a daughter.

WHEREAS: This Medical Society has lost an honorable Past President and member and,

WHEREAS: The community has lost a distinguished member and friend,

BE IT THEREFORE RESOLVED: That the Southside Medical Society enter into its Minutes these resolutions and convey to his family its heartfelt sympathy and,

BE IT FURTHER RESOLVED: That a copy of these resolutions be sent to his family, and to The Medical Society of Virginia for publication in the Virginia Medical Monthly.

ROBERT S. SMITH, M.D.
JAMES H. POWELL, M.D.
JOSEPH L. DUNFORD, M.D.

Dr. Rosenthal.

Dr. Simon Harry Rosenthal was born in Lynchburg December 16, 1890. He began practice here in January 1915 after graduation from Jefferson Medical College and an internship at the Philadelphia General Hospital. After several years of general practice he took special training in urology at the Postgraduate Hospital in New York and devoted himself to this field for the rest of his life. During World War I he served as a first lieutenant in the Army Medical Corps. In June 1935 he was commissioned a lieutenant commander in the U. S. Naval Reserve and served in World War II.

He continued in practice with no formal retirement until his death on December 9, 1973. During the last few years he gradually relinquished practice to his son, Dr. Macey Rosenthal, who was associated with him in practice since 1951.

Dr. Rosenthal was a member and past president of the Lynchburg Academy of Medicine. He was also a member of The Medical Society of Virginia, American Medical Association and the American Urologic Association.

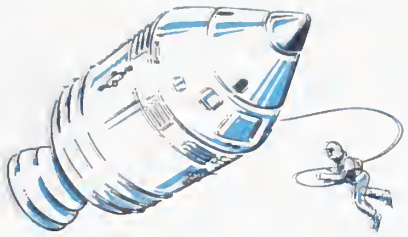
As a member of the Medical Journal Club he was for many years the traditional host at the Christmas meeting, always a memorable occasion.

To those of us who knew him best he will be remembered especially for his industry, orderliness, dedication to his patients. His very early medical rounds at the hospital occasioned comment among the nurses and his medical confreres. A strong sense of duty was his guiding light. Though declining health handicapped him at the last yet he continued his office hours up to the time of death.

He is survived by his widow, a sister, a son, Dr. Macey Rosenthal, a daughter and seven grandchildren.

The Lynchburg Academy of Medicine wishes by this resolution to express its deepest sympathy to the family of Dr. Simon Rosenthal and requests that a copy of this resolution be sent to Mrs. Rosenthal and that a copy be sent to The Medical Society of Virginia for publication in the Virginia Medical Monthly.

EDWIN A. HARPER, M.D.
ERNEST G. SCOTT, M.D.
FRANK N. BUCK, JR., M.D.



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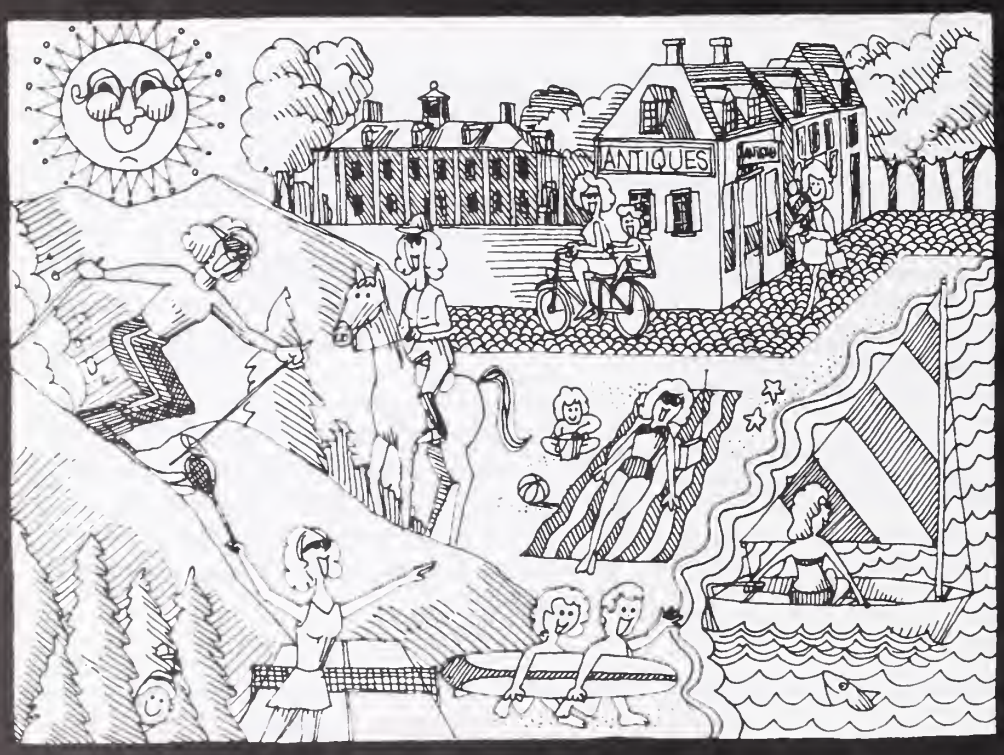

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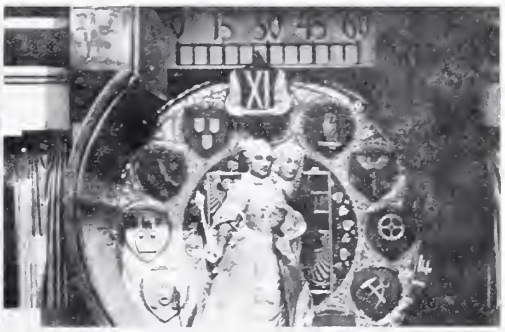

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1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. *49*:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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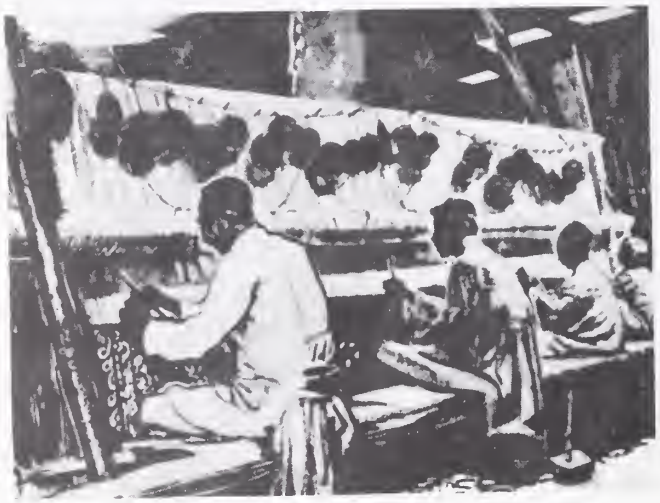

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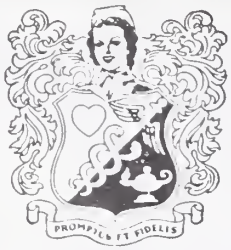

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OFFICIAL PUBLICATION
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Virginia Medical Monthly

April, 1974 Volume 101

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APR 24 1974

This psychoneurotic often respond

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal m be associated with temporary increase in frequency and/or severi of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdraw symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discon tinuance (convulsions, tremor, ab dominal and muscle cramps, vomit g and sweating). Keep addiction-pr e individuals under careful surveil lance because of their predisposi n to habituation and dependence. I pregnancy, lactation or women o childbearing age, weigh potential benefit against possible hazard.

When you determine that the depressive symptoms are associated with or secondary to predominant anxiety in the psychoneurotic patient, consider Valium (diazepam) in addition to reassurance and counseling, for the psychotherapeutic support it provides. As anxiety is relieved, the depressive symptoms referable to it are also often relieved or reduced.

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symptom complex to Valium® (diazepam)

Precautions: If combined with ther psychotropics or anticonvul-ants, consider carefully pharma-ology of agents employed; drugs ich as phenothiazines, narcotics, arbiturates, MAO inhibitors and her antidepressants may poten-ate its action. Usual precautions dicated in patients severely de-ressed, or with latent depression, with suicidal tendencies. Observe ual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects Drowsiness, confusion, diplopia ypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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(Founded by Landon B. Edwards, M.D., April, 1874)

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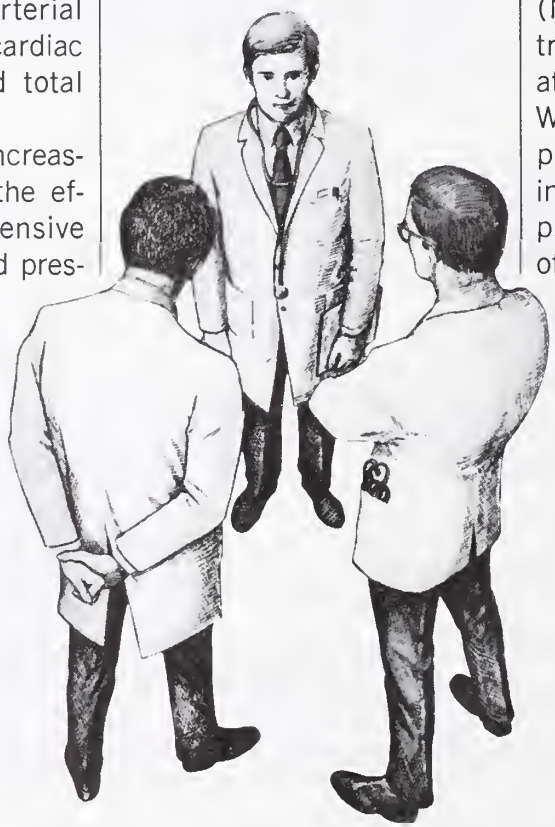
The more physicians consider the hemodynamics of lowering blood pressure...

Most physicians now agree on the importance of reducing blood pressure in the hypertensive patient. But high blood pressure exists, of course, only as part of a complete clinical picture. The hemodynamic profile of well-established essential hypertension is characterized by elevated arterial blood pressure, normal cardiac output, and increased total peripheral resistance.

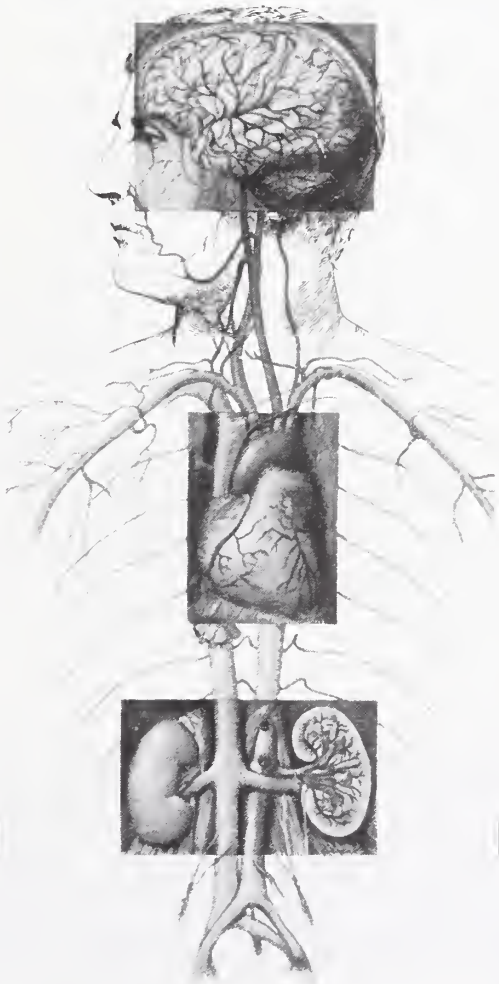
And so, physicians are increasingly concerned with the effects of an antihypertensive agent not only on blood pressure itself but also on the hemodynamic pattern—in short, with the total effect of the drug. *Does* it indeed help lower blood pressure effectively? *Is* peripheral resistance reduced? *Are* cardiac output and renal functions maintained? And, also, is there likely to be drug-induced postural hypotension serious enough to pose a threat to the patient's cerebrovascular status?

With this emphasis on overall drug performance has come a growing reliance on ALDOMET® (Methyldopa, MSD) in the treatment of sustained moderate hypertension.

With its unique hemodynamic profile, ALDOMET has drawn increasing attention and approval from physicians. First, of course, for its efficacy in



the more physicians rely on this unique antihypertensive



lowering blood pressure. But there are other considerations as well. Cardiac output is usually maintained with no cardiac acceleration; in some patients the heart rate is actually slowed. Peripheral resistance is apparently reduced. ALDOMET does not usually compromise existing renal function; it generally does not reduce renal blood flow, glomerular filtration rate, or filtration fraction. And ALDOMET usually does not cause symptomatic postural or exercise hypotension.

Some patients on continuous methyldopa therapy may develop a positive direct Coombs test. For more details, see the brief summary of prescribing information.

Contraindicated in active hepatic disease and known sensitivity to the drug. Not recommended in pheochromocytoma or pregnancy. It should be used with caution in patients with a history of liver disease or dysfunction. Discontinue the drug if fever, abnormal liver function, jaundice, or acquired hemolytic anemia occurs.

In most cases of sustained moderate hypertension

TABLETS, 250 mg

ALDOMET®

(METHYLDOPA | MSD)

smoothly lowers blood pressure

For a brief summary of prescribing information, please see following page.

In most cases of sustained moderate hypertension

TABLETS, 250 mg

ALDOMET®
(METHYLDOPA MSD)

smoothly lowers blood pressure

Contraindications: Active hepatic disease, such as acute hepatitis and active cirrhosis; known sensitivity. Not recommended in pheochromocytoma. Unsuitable in mild or labile hypertension responsive to mild sedation or thiazide therapy. Use cautiously in patients with history of previous liver disease or dysfunction.

Warnings: Acquired hemolytic anemia has occurred rarely in association with therapy with methyldopa. Should clinical symptoms indicate the possibility of anemia, hemoglobin and/or hematocrit determinations should be performed. If anemia is present, appropriate laboratory studies should be done to determine if hemolysis is present. Evidence of hemolytic anemia is an indication for discontinuation of the drug. Discontinuation of methyldopa alone or the initiation of adrenocortical steroids usually results in a prompt remission of the anemia. Rarely, however, fatalities have occurred.

Some patients on continued therapy with methyldopa develop a positive direct Coombs test; incidence reported has averaged between 10% and 20%. It rarely occurs in first six months of therapy, and if not seen within twelve months, is unlikely to develop with continued administration. Positive Coombs test is dose-related; lowest incidence occurs in patients on 1 g methyldopa or less per day. Reversal of the positive Coombs test occurs within weeks to months after discontinuation of methyldopa. Prior knowledge of a positive Coombs reaction aids in evaluation of cross match for transfusions. Patients with positive Coombs tests at time of cross match may exhibit incompatible minor cross match. When this occurs, an indirect Coombs test should be performed. If negative, transfusion with blood otherwise compatible in the major cross match may be carried out. If positive, advisability of transfusion with blood compatible in major cross match should be determined by hematologist or expert in transfusion problems.

Fever has occurred within first three weeks of therapy, sometimes with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first two to three months of therapy. Rare cases of fatal hepatic necrosis have been reported. Liver biopsy in several patients with liver dysfunction has shown microscopic focal necrosis compatible with drug hypersensitivity. Rarely, reversible reduction in leukocyte count with primary effect on granulocytes has been seen; reversible agranulocytosis has been reported. Methyldopa may interfere with measurement of creatinine by alkaline picrate method and of uric acid by phosphotungstate method. When used with other antihypertensive drugs, potentiation of antihypertensive action may occur.

Usage in Pregnancy and Childbearing Age—Not recommended in pregnancy. In women of childbearing age, weigh potential benefits against possible fetal hazards.

Precautions: Perform periodic hepatic function tests and white cell and differential blood counts during first six to twelve weeks of therapy or in unexplained fever. Discontinue if fever, abnormalities in liver function tests, or jaundice appears. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, spuriously high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. Discontinue drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Anesthetics requirements may be reduced; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension may occur after dialysis because methyldopa is removed by this procedure.

Dosage should be limited initially to 500 mg daily when following previous antihypertensive agents other than thiazides. Do not exceed recommended daily dose of 3.0 g. Patients with impaired renal function may respond to smaller doses than patients with normal kidney function. Syncope in older patients has been related to increased sensitivity in those with advanced arteriosclerotic vascular disease; this may be avoided by lower doses. Tolerance occasionally seen either early or late, but more likely between second and third month after initiation of therapy; increased dosage or combined therapy with a thiazide frequently restores effective control.

Adverse Reactions: Sedation, usually transient, may be seen during initial therapy or when dosage is increased. Headache, asthenia, or weakness may be noted as early, transient symptoms. Symptoms associated with effective lowering of blood pressure, including dizziness, lightheadedness, and symptoms of cerebrovascular insufficiency, are seen occasionally. Angina pectoris may be aggravated. Symptoms of orthostatic and exercise hypotension may occur; if symptoms occur, reduce dosage. Bradycardia, nasal stuffiness, mild dryness of mouth, and gastrointestinal symptoms including distension, constipation, flatus, and diarrhea occur occasionally; these can be relieved by reducing dosage. Nausea and vomiting have been reported in only a few patients. Sore tongue or "black tongue," pancreatitis, and inflammation of salivary glands may occur.

Weight gain and edema occur infrequently; if edema progresses or signs of pulmonary congestion appear, discontinue drug. Rarely, urine exposed to air may darken due to breakdown of methyldopa or its metabolites. Other rare reactions include breast enlargement, lactation, impotence, decreased libido, skin rash, mild arthralgia, myalgia, paresthesias, parkinsonism, psychic disturbances including nightmares, reversible mild psychoses or depression, reversible thrombocytopenia, drug-related fever and abnormal liver function studies with jaundice and hepatocellular damage (see **Warnings** and **Precautions**), rise in BUN, and a single case of bilateral Bell's palsy.

Supplied: Tablets, containing 250 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 1000.

For more detailed information, consult your MSD representative or see full prescribing information Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

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ADDENDUM

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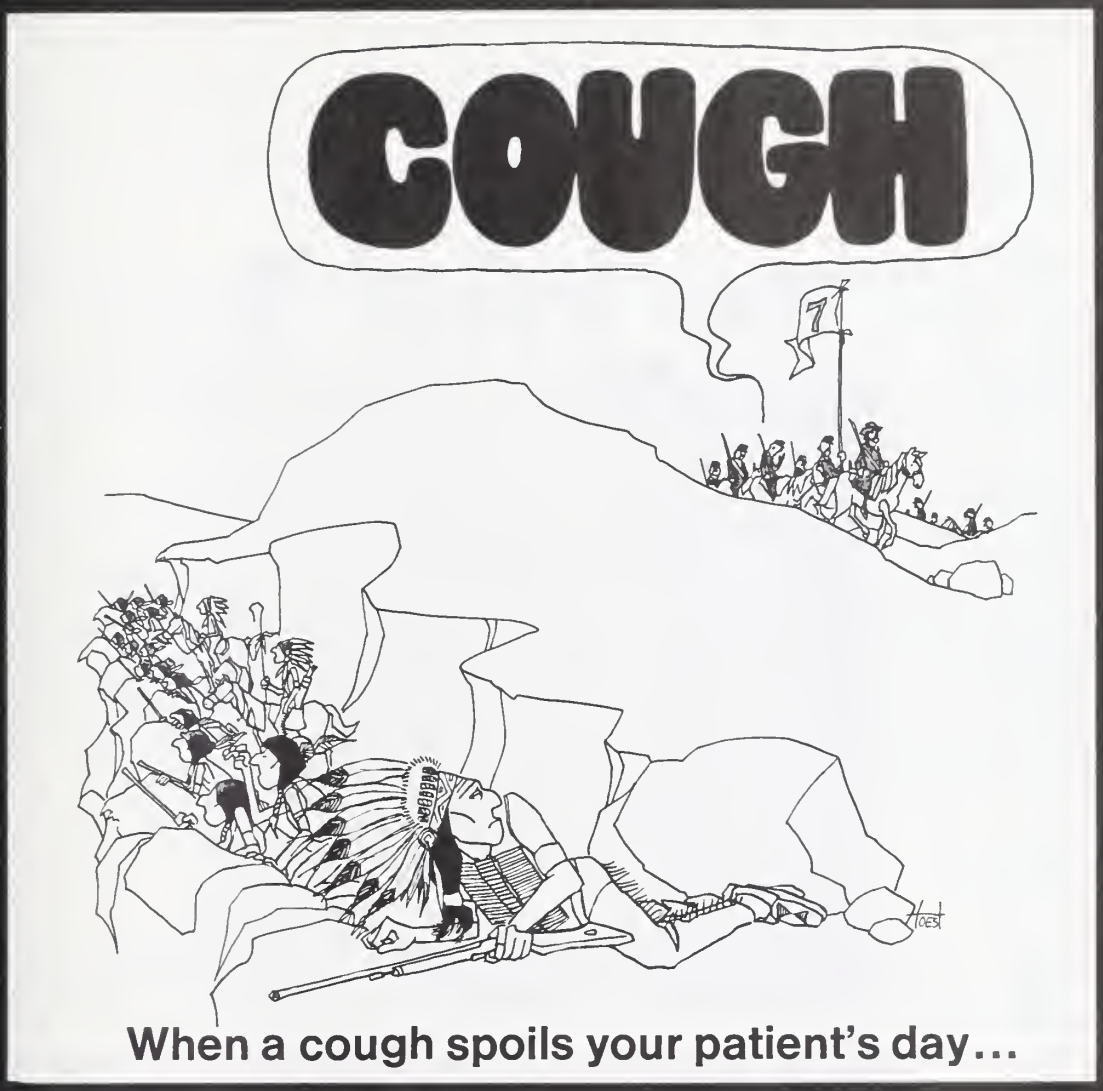
Family physicians are being urged to take blood pressure readings as a matter of office routine, regardless of the presenting complaint or the reason for the visit. And because many people do not see a family physician for relatively long periods of time, some experts are suggesting that ophthalmologists, gynecologists, dermatologists, orthopedists, psychiatrists, dentists, school nurses, family planning counselors, and other health-care personnel make blood pressure reading a routine part of every examination or consultation.

Of course, a diagnosis of hypertension cannot be made on the basis of a single reading, but routine blood pressure readings can uncover potential trouble in a certain proportion of patients. And when trouble is suggested, further evaluation can be pursued more effectively.

Blood pressure—"required reading" for all physicians.



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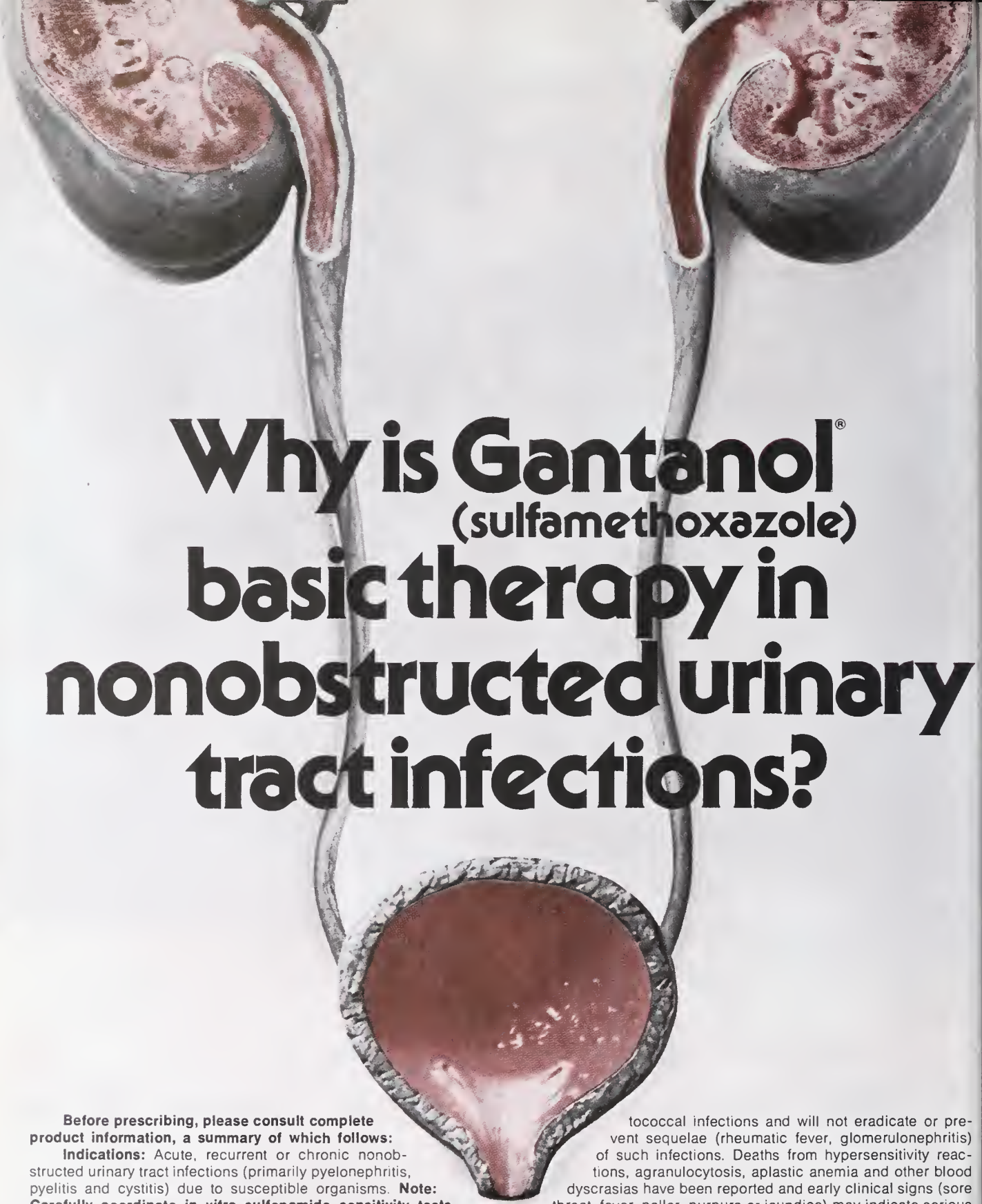

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Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

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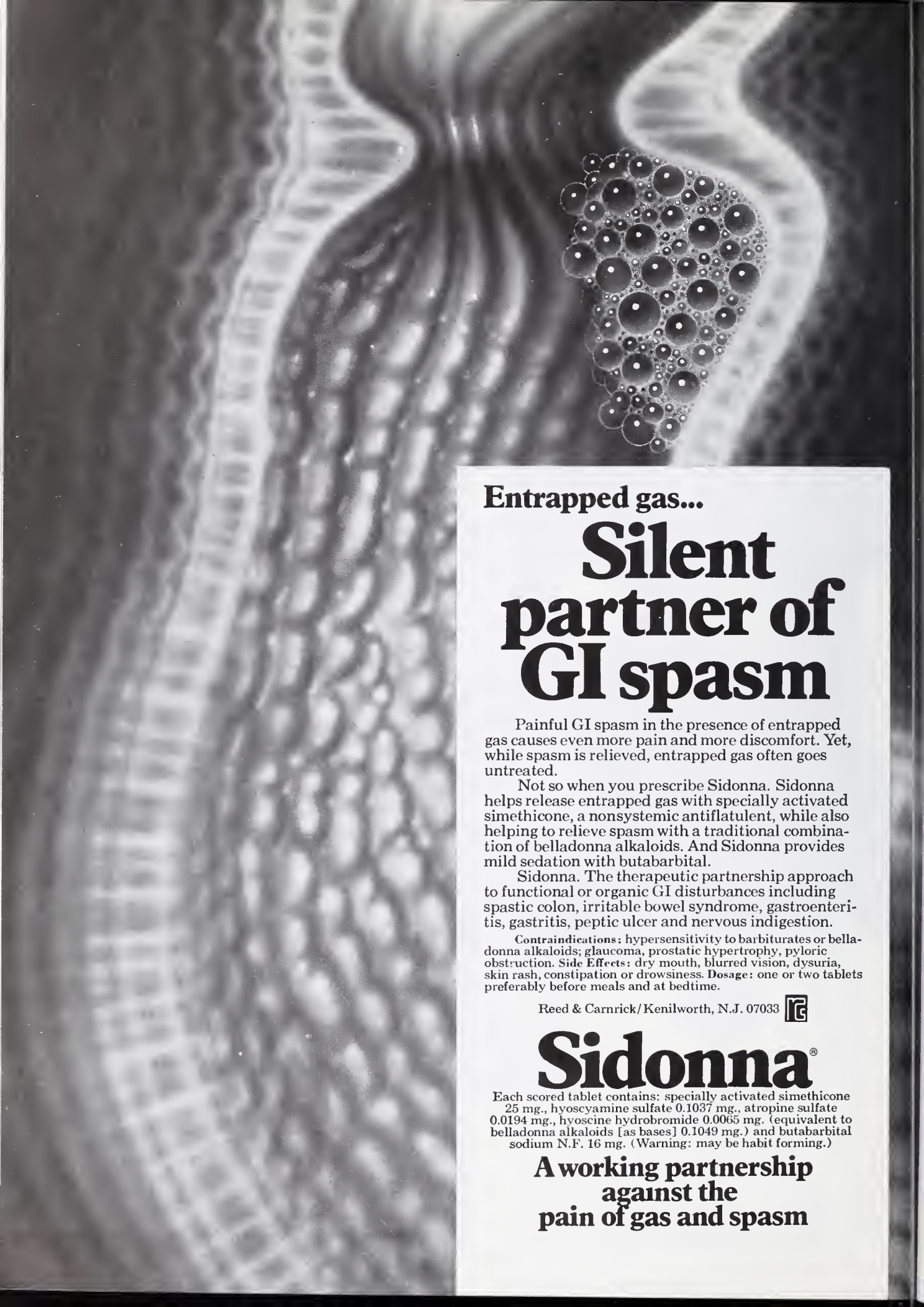

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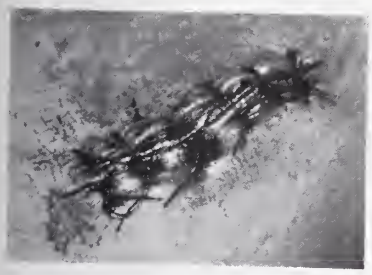

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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, descreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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The American Psychiatric Association

The Executive Committee of the National Association of Retail Druggists

The Board of Directors of the Pharmaceutical Manufacturers Association

The National Wholesale Druggists' Association

Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage interprofessional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

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The Virginia
MEDICAL MONTHLY

April, 1974
Vol. 101, No. 4
Whole No. 1463

Guest Editorial . . . .

The Aggressive Optometrists

CONTRARY TO THE OPINIONS of certain politicians and the news media, there has never been in the history of civilization the quality and availability of medical care that exists in the United States today. Yet physicians find themselves in a defensive position subject to continual harassment. An affluent nation has been encouraged to believe that unparalleled quality medical care in the United States is a civil right to be demanded at the slightest suspicion of its absence. They have been encouraged to believe that American physicians are simply technicians, to be regulated by federal bureaucracy. A strange attitude it is since it necessarily disregards the quality of the individual physician and his unrelenting willingness to continually improve the service he delivers. It appears unrecognized that no other profession exacts such rigid standards of performance of its members. Thus, the hazy mind that thrives on strange contradictions is busily trying to change American medicine according to the patterns established in many socialistic countries.

One wonders if the same confusion is the common denominator that triggers ambitions of those in fringe areas of medicine to become physicians without benefit of medical school education. A classic example is the current attempt by optometrists to assume the role of ophthalmologists. Their militancy has become frightening. In Memphis optometrists acquired a federal narcotics license before an alert physician's warning prompted the government to correct its error. There have been well coordinated legislative efforts to make optometrists the initial contact with all eye patients, referring what he pleases and retaining the rest as his patients. Others have simply tried to make it law that only optometrists can perform refractions, obviously a part of any routine eye examination. And now, there is federal law creating a Department of Optometry in the Veterans' Administration Hospitals.

There are well trained optometrists plying their trade honestly and performing a valuable public service. There are also too many optometrists profiting handsomely from prescriptions written for virtual window glass and unnecessary eye exercises. Optometrists are not physicians. That they should be equated to physicians is an overt deceit conducted by the political forefront of optometry.

It would appear that if we are to retain the caliber of medical practice as we know it, the physician is going to have to concern himself with things other than Medicare.

KEITH W. MCNEER

5700 West Grace Street
Richmond, Virginia 23226

Minor Head Injury

LT. COLONEL DARWIN J. FERRY, M.C.
Roanoke, Virginia
CAPTAIN NORWYN NEWBY, M.C.
Washington, D. C.

Four-hundred patients with minor head injury were studied. Intracranial hematomas developed in 2.5%. Persistent lethargy, anisocoria and subhyloid retinal hemorrhage in children younger than five years were the most reliable clinical signs of intracranial hematoma. Post-traumatic seizures occurred in 9% of children under five years and were of no prognostic significance and did not generally require anticonvulsive therapy. The presence of linear skull fractures, transient loss of consciousness, post-traumatic seizure, and nausea and vomiting was of no value in predicting subsequent intracranial hematoma.

PHYSICIANS must often evaluate patients with minor head injury. Large reviews of head injuries have been published.[1-5] These studies encompass more severe injuries and do not aid in evaluation of minor head injury. It is difficult to determine the significance of lethargy, subtle neurological deficit, linear skull fracture or post-traumatic seizure in predicting those patients who might develop an intracranial hematoma. This study was undertaken to determine the risk of subsequent intracranial hematoma in patients with minor head injury.

From the Neurosurgery Service, Tripler Army Medical Center, APO San Francisco.

Captain Newby is currently with the Neurosurgery Service of Walter Reed General Hospital.

Study

Four-hundred patients were studied from among those admitted to the Neurosurgery Service, Tripler Army Medical Center, 1965 through 1970. Two-thirds were studied by retrospective analysis of case records, one-third were studied prospectively. Each patient had a history of head injury and when first evaluated had no other problem requiring admission. Admission criteria included linear skull fracture, history of unconsciousness, hemotympanum, post-traumatic seizure or persistent neurological deficit. Many of these patients had improved significantly by the time of their admission. The need for hospitalization was frequently questioned by the neurosurgical staff. The study group does not represent all minor head injuries for this period, but rather patients in whom hospitalization for observation might be debated.

Study patients were divided into four age groups (Table 1) for analysis; less than five years, five to 10 years, 10 to 20 years, and those 20 years or older. Method of injury, symptoms and signs, and sequelae were analyzed.

TABLE 1
HEAD INJURY STUDY

	Males	*Females*	*Study Group*
0-5 years	61	28	89
5-10 years	31	12	43
10-20 years	92	17	109
20+ years	130	29	159
			400 patients

Results

One-third of all studied patients were younger than ten years of age and 77% were males. Males outnumbered females 2½ to 1 under ten years, and male preponderance was five to one over ten years.

Most children under ten years were injured by falling (Table 2), usually a distance of less than five feet, while patients older than ten years were injured in vehicular accidents or by assault. Twenty-two per cent over 20 years were injured by assault.

TABLE 2

MECHANISM OF INJURY

	0-5	5-10	10-20	20+	Group
Fall: <5 feet	55%	42%	18%	28%	33%
>5 feet	19%	14%	7%	3%	8%
Vehicular:					
bicycle		24%			
motorcycle			7%	10%	
automobile	9%	3%	36%	27%	> 25%
Assault:			11%	22%	12%

Nausea and vomiting were present in 29%, and were more frequent in younger patients (Table 3). Headache occurred with the same general incidence but in contrast was more frequent in adults. Three per cent had seizures immediately after head injury with seizures occurring in 9% of those patients under five years. Only one patient required long-term anticonvulsive therapy. Eighteen per cent were amnesic. Amnesia was most frequent in adults, occurring in over 34% older than 20 years.

TABLE 3

SYMPTOMS

	0-5	5-10	10-20	20+	Group
Nausea and vomiting	34%	49%	26%	23%	29%
Headache	15%	30%	37%	33%	29%
Seizure	9%	5%	1%	2%	3%
Amnesia	—	16%	9%	34%	18%

Fifteen per cent were confused upon admission and 36% were lethargic (Table 4). Lethargy was more frequent in children, occurring in more than one-half of those patients five to 10 years. Ataxia and hyperactive or agitated behavior were infrequent findings.

TABLE 4

FINDINGS

	0-5	5-10	10-20	20+	Group
Confusion	6%	23%	12%	20%	15%
Lethargy	45%	58%	38%	24%	36%
Abnormal gait	7%	4%	4%	4%	5%
Agitation	10%	5%	6%	—	5%
Hemotympanum	8%	5%	11%	12%	10%
Scalp hematoma	15%	5%	15%	3%	12%
Focal neurological deficit	13%	12%	10%	17%	14%

Ten per cent had hemotympanum upon admission and a similar number had scalp hematomas or mild lateralizing signs. Focal neurological deficits (Table 5) were most frequently found in those patients with basilar skull fractures or in patients with post-traumatic seizures. Peripheral VII nerve palsy and disorders of hearing were particularly common in the former group and were the only findings frequently present upon discharge. Sixth nerve palsy was present in four patients with basilar skull fracture, and in one case bilateral VI nerve palsy was present. Most VII cranial nerve palsies increased over the initial 24-to-48 hour period. Mild hemiparesis, unilateral clonus, or Babinski sign, and transitory expressive aphasia were found in 27 patients. Eight patients presented with mild sensory deficits and four with transitory blindness or hemianopsia. Staggering gait or ataxia was found in 15 patients. Anisocoria occurred in 12 patients, three subsequently developed intracranial hematomas.

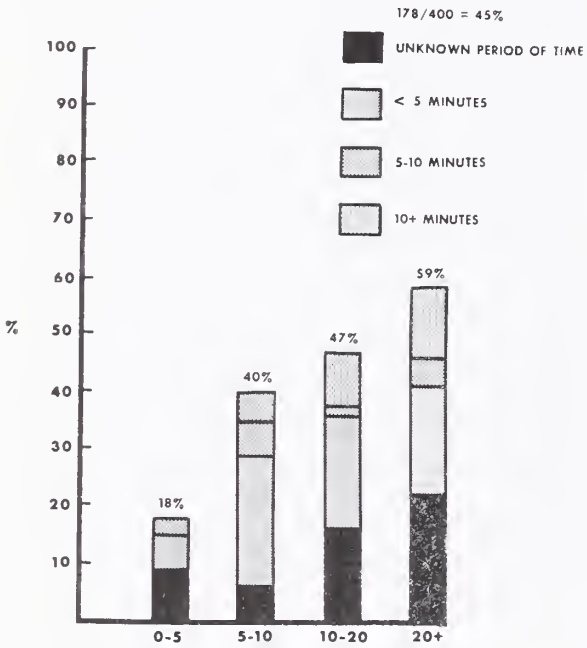
TABLE 5

FOCAL NEUROLOGICAL DEFICITS

	Basilar Skull Fracture	Seizure	Hematoma	Total
Cranial Nerves:				
III	1	2	3	12
VI	4			4
VII	8	1		11
VIII	12			13
IX	1			1
Motor:				
Weakness	1	2		8
Clonus	1	1		5
Babinski	2	3		11
Aphasia	1			3
Sensory				8
Visual blindness (temporary) hemianopsia				4
Nystagmus	2			4
Ataxia	4	1		15

Forty-five per cent were transiently unconscious (Fig. 1). The incidence and length of unconsciousness increased with age. Eighteen per cent of children younger than five years and 59% of adults over 20 years had disturbance of consciousness. Thirty per cent had skull fractures (Fig. 2). Skull fractures were more frequent in children under five years, occurring in 40%. Location of skull fracture also varied with age, with occipital and parietal fractures more frequent in children and basilar skull fractures more frequent in adults.

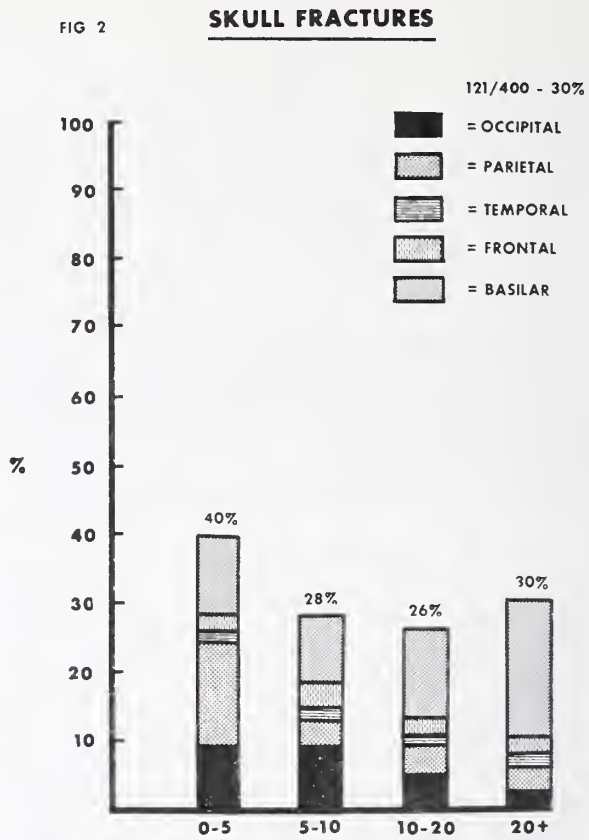
FIG 1



Thirteen patients developed a post-concussive syndrome characterized by easy fatigability, lassitude, lightheadedness or giddiness, and headache accentuated with sudden changes of position or activity (Table 6). These symptoms were temporary, resolving within days or weeks. Five patients developed an organic brain syndrome, one requiring institutional care.

Basilar skull fractures (temporal bone fractures) (Table 7) were diagnosed by x-ray findings or more commonly by the presence of a hemotympanum. Fifty-five patients were

FIG 2



admitted with basilar skull fracture representing 16% of the total group. Hearing loss occurred in 12 patients or 22% of all patients with basilar skull fracture. Peripheral VII cranial nerve palsy and hearing loss were found in 30%. Six patients developed cerebrospinal fluid otorrhea. This spontaneously resolved in all without development of meningitis. Two patients with basilar skull fractures developed subsequent intracranial hematomas representing 4% of this group.

TABLE 6

SEQUELAE

	No. of Patients	*Per Cent*
Post-concussive syndrome	13	3
Hearing loss	12	3
VII palsy (persistent)	6	1.5
Intracranial hematoma	9	2.5
Organic brain syndrome	5	1

Intracranial hematomas (Table 8) occurred in nine of the 400 patients studied, an incidence of 2½%. Two hematomas were epidural in location; seven were subdural. Four intra-

TABLE 7

BASILAR SKULL FRACTURE

Sequelae	*No. of Patients*	*Per Cent*
Hearing loss	12	22
VII palsy	8	14
Post-concussive syndrome	2	7
Intracranial hematoma	2	4
Vestibular injury	2	4
VI palsy	4	7

TABLE 8

INTRACRANIAL HEMATOMA

	No. of Patients	*Per Cent with Hematoma*	*Per Cent in Study Group*
Unconscious	2	22	45
Nausea and vomiting	2	22	29
Headache	1	11	29
Seizure	2	22	9
Amnesia	0		18
Agitation	2	22	5
Lateralizing signs	4	44	14
Confusion	2	22	15
Lethargy	5	55	36
Skull fracture	2	22	30

cranial hematomas were found in children below ten years of age. The method of injury was similar to that described for the group in general with three children under five years injured by short falls and four adults injured in vehicular accidents or assaults. Comparison of the presenting signs and symptoms showed a higher incidence of lethargy and localizing neurological deficits in these patients. Three presented with anisocoria. Subhyloid retinal hemorrhages were noted in only two of the 400 study patients. These were seen in two of the three patients under five years of age who subsequently developed intracranial hematomas.

Three patients developed intracranial hematomas (two subdural, one epidural) within 24 hours of admission. Six patients developed intracranial hematomas (five subdural, one epidural) more than 72 hours after their injury. Three of these six patients with subacute hematomas had resolution of their presenting symptoms and appeared normal for periods of 36 to 72 hours.

Comment

Male preponderance has been noted previously in large reviews on head injury.[1-4] Similarly most children have been found to be injured by falls and adults by vehicular accident or assault.[1, 2, 4, 5]

Loss of consciousness has not been a reliable indicator of subsequent intracranial hematoma. Hendrick[4] in his analysis of 4,465 head-injured children found that 35% did not lose consciousness. Thirty-seven per cent of those children with subsequent subdural hematomas and 27% with brain damage also did not lose consciousness. The same author found that drowsiness, irritability or confusion were significant symptoms, being present in 33% of those patients developing extradural hematomas and 25% of those developing subdural hematomas. Headache and vomiting were found to have no prognostic significance.

Till[6] noted that retinal and subhyloid hemorrhages are extremely rare in infancy except in subdural hematomas. Hendrick[4] also noted retinal hemorrhage as a common occurrence in subdural hematoma. The prognostic significance of this sign is again noted in the present study.

Post-traumatic seizures were found in 3% of our patients and were three times more frequent in children under five years. Hendrick[4] found an incidence of 7.4% with over half of these seizures occurring within 24 hours of injury. Jennett[7] found a 3.9% incidence of post-traumatic seizures with twice as many occurring in patients under five years. In his series, one-third of these post-traumatic seizures occurred within one hour of the injury and a third within 24 hours of the injury. He concludes that an isolated seizure without other signs of cerebral compression is of no prognostic significance as was noted in the present study.

Skull x-rays are routinely obtained on head-injured patients. Recently the value of skull x-rays has been challenged. Roberts[8] reviewed 570 head-injured patients receiving skull x-rays for "medical-legal" reasons and found that only one of these children was treated on the basis of the x-ray findings. Burkinshaw[2] studied the value of routine skull x-rays in the treatment of head-injured children. He con-

(*Continued on page* 298)

Spontaneous Pneumothorax

Two Cases of Obscure Etiology

ARTHUR J. INNES, M.B.Ch.B.
Eugene, Oregon

Two cases of spontaneous pneumothorax are presented, one due to malignant mesothelioma of the pleura and one complicating pulmonary sarcoidosis. These two unusual cases were seen in a 6-month period in the same institution.

SPONTANEOUS PNEUMOTHORAX at one time used to be pathognomonic of tuberculosis, but nowadays apical blebs or adhesions are by far the commonest causes. Posture, body build, effort and the erect position have all been suggested as contributing factors.[5, 7] Spontaneous pneumothorax resulting from previously diagnosed or unsuspected carcinoma of the lung has now become a not uncommon occurrence, whereas spontaneous pneumothorax secondary to mesothelioma of the pleura has been mentioned briefly in the literature. More frequently, malignant mesothelioma presents as a massive spontaneous hemothorax, or a solitary lesion on x-ray.

Spontaneous pneumothorax is known to occur in the late stages of pulmonary sarcoidosis when the changes of pulmonary fibrosis with emphysema have developed. In many instances, the fibrous changes of pulmonary sarcoid will disappear, and end-stage pulmonary fibrosis with respiratory failure is relatively uncommon.

Within a six month period, in this institution, one patient with spontaneous pneumothorax due to malignant mesothelioma of the pleura, and one patient, with pneumothorax complicating the late stages of pulmonary sarcoidosis, presented on the teaching services.

Case 1: In April of 1972, this 67 year old Negro male was seen at another hospital with a left-sided pleural effusion, which, on aspiration, revealed adenocarcinoma. Cell block was reported as showing numerous mesothelial cells. He presented here in June 1972 with a short history of increasing dyspnea. Chest x-ray revealed a 30% pneumothorax on the left with evidence of effusion. (Fig. 1) A chest tube was inserted and drained 1500 cc. of serous fluid. Cell block was negative for tumor cells as was a pleural biopsy. Following three days of tube drainage, the left lung had fully expanded, the tube was withdrawn and the patient discharged. Follow-up x-ray two weeks later on an out-patient basis again revealed a fully expanded left lung.

In July 1972, he was found again to have a 30% pneumothorax on the left side. (Fig. 2) Tube thoracostomy was done for the second time. Following removal of the tube three days later, the lung collapsed again. The patient underwent a left thoracotomy the following day.

At the time of surgery, there were several hard nodular areas at the apex of the left lung, not unlike old tuberculosis, to which the pleura was densely adherent. The nodules involved the whole of both pleural surfaces, the diaphragm and pericardium. At the apex, a small but obvious area of necrosis with an air

This manuscript was prepared while Dr. Innes was Chief Resident in General Surgery at the Norfolk General Hospital, Norfolk, Virginia.

FIGURE 1

FIGURE 2

leak was found. This was closed, a pleurectomy done, and the patient had an uneventful recovery. Permanent sections (Fig. 3) revealed fibro-fatty and fibro-muscular tissue infiltrated by cords of poorly differentiated malignancy. The tumor histology is consistent with a mesothelioma of the pleura.

Post-operatively, the patient was started on chemotherapy. There has been no recurrence of the pneumothorax or effusion and he has been asymptomatic.

Case 2: This is a 57 year old Negro female who was admitted in 1971 to Norfolk General Hospital with a one and one-half year history of shortness of breath. Examination revealed

FIGURE 3

supraclavicular adenopathy and hepatomegally. Chest x-ray revealed an infiltrate involving almost the entire right upper lobe with cavitation at the apex. (Fig. 4) There was a shift of the mediastinum to the right and enlargement of both hila with slight widening of the mediastinum. Workup for tuberculosis was negative, bronchial biopsy revealed small multiple granulomas without evidence of necrosis suggestive of sarcoidosis. AFB stains were negative.

She was readmitted in September of 1972 with a history of sudden onset of shortness of breath. She was markedly dyspneic on examination and had diminished breath sounds on the right. X-ray (Fig. 5) revealed a 30% pneumothorax on the right side. The right lung expanded readily (Fig. 6) with a chest tube and another bronchial biopsy again revealed sarcoidosis.

FIGURE 4

FIGURE 5

To obtain a tissue diagnosis of the lesion in the right upper lobe, open lung biopsy was done and this revealed many granulomatous foci. (Fig. 7) None of these exhibited caseation. Post-operatively, this patient has done well and the appearance on x-ray of right lung has remained unchanged.

Review of Literature

A. PNEUMOTHORAX SECONDARY TO TUMOR

In children, bone tumors with pulmonary metastases have been reported as a cause of spontaneous pneumothorax in this age group.

FIGURE 6

FIGURE 7

Spittle,[2] in 1968, reviewed the world literature and found a total of 42 cases. He added another four cases, all in children, and since

FIGURE 8

then other authors[1, 6] have added individual cases, bringing the total to 48 cases.

Several authors have reported spontaneous pneumothorax as a result of primary lung tumors, varying from squamous cell carcinoma[8] and bronchogenic carcinoma[12, 3] to terato-carcinoma of the lung.[11] Mills,[21] in a series of 400 cases of pneumothorax, reported three due to metastatic sarcoma.

Eisenstadt,[9] in 1956, reported a single case of diffuse malignant mesothelioma of the pleura presenting as recurrent spontaneous pneumothorax and Wolcott,[10] in 1959, reported two similar cases in a series of eight patients with mesotheliomas. In 1969, Ehrenraft,[13] in a series of 16 patients with localized and diffuse mesotheliomata, included one patient in whom recurrent spontaneous pneumothorax was the presenting feature. Urschel,[20] in 1965, reported a series of 28 patients in whom one presented as spontaneous pneumothorax. In all series, most cases of mesothelioma presented either as a mass on x-ray or a pleural effusion. Massive spontaneous hemothorax was a common presenting feature of the diffuse type. The patient in this series is the sixth patient in the English literature with spontaneous pneumothorax as the presenting feature of his disease. Finby[4] has suggested that the tell-tale pleural nodules seen when pneumothorax occurs will aid in the preoperative diagnosis. If hydropneumothorax is present, changes in position will demonstrate the static nature of the pleural thickening. In this case the nodules were not seen and no decubitus films were taken.

B. PNEUMOTHORAX SECONDARY TO SARCOID

Fischer[19] has estimated that 55% of sarcoid patients are diagnosed by chest x-ray and 90% of sarcoid patients have some degree of pulmonary infiltration.

It has been estimated by Scadding[17] that about 20% of patients with hilar adenopathy due to sarcoidosis will develop pulmonary infiltration. In the great majority of cases, these changes will resolve completely or leave only minor fibrotic changes. Of those who develop fibrotic changes, there appears strand-like fibrosis in the middle and upper lung fields with peripheral emphysematous changes. Where fibrotic changes are particularly dense, cavity formation and Aspergillus growth will result in a "fungus ball". It is by rupture of the emphysematous bullae that pneumothorax can occur. About 5 to 15% of patients with pulmonary sarcoidosis show symptoms of respiratory impairment.

The exact incidence of pneumothorax accompanying the changes of pulmonary sarcoid is difficult to determine. Thygesen,[16] in 1970, reported a series of 254 patients with intrathoracic sarcoid in whom six developed or presented with spontaneous pneumothorax, with varying degrees of predisposing pulmonary fibrosis and emphysema. Selroos,[14] in a series of 140 cases from Finland, reported only a 6% incidence of advanced pulmonary fibrosis and no cases of pneumothorax. In 1970, Freundlich[18] reported 300 cases of pulmonary sarcoidosis in Philadelphia, in whom four developed pneumothorax due to fibrosis and emphysema. If a statistic must be quoted, it could said then that about 1.5% of all cases of pulmonary sarcoid will develop or present with spontaneous pneumothorax. Certainly, this is not a common finding. Scadding[15] has estimated that between 6% and 7% of patients with pulmonary sarcoid will die in a

10 to 15 year period from the disease, so the prognosis seems favorable.

Summary

Two patients, both with pneumothorax of obscure etiology, are presented. One, with pneumothorax as a presenting feature of diffuse malignant mesothelioma, is believed to be only the sixth such case in the English literature. The other, a patient with pneumothorax secondary to advanced pulmonary sarcoidosis, represents an extremely uncommon presentation of the disease.

The chances of two such cases occurring within the same institution within a period of months are probably incalculable.

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325 West 38th Street
Eugene, Oregon 97405

Isotope Cisternography and Ventriculography

Clinical Applications

I. RINALDI, M.D.
W. O. HARRIS, JR., M.D.
J. E. KOPP, M.D.
P. M. FITZER, M.D.
J. T. MYLES, M.D.
W. F. PEACH, JR., M.D.
Newport News, Virginia

These are safe diagnostic procedures providing valuable information on the flow, distribution, and absorption of the cerebrospinal fluid. They are useful in the diagnosis of obstruction and other conditions. Also they are helpful in monitoring such situations as surgical shunts.

RADIOISOTOPIC CISTERNOGRAPHY and ventriculography are relatively new diagnostic studies depicting in a dynamic fashion both the normal and abnormal flow, distribution, and absorption patterns of the cerebrospinal fluid (CSF). The ability to actually monitor and visualize the cerebrospinal fluid circulation over a certain period of time has proved to have considerable clinical usefulness[9].

By injecting radioactive pharmaceuticals either into the lumbar subarachnoid spaces or cisterna magna, or directly into the ventricular system, it has been possible to confirm the following facts:

(1) The largest portion of the CSF is produced by the choroid plexus of the lateral, third, and fourth ventricles.[10] A smaller amount is produced by the ependymal lining of the ventricular cavities[11, 15] and perhaps by the arachnoid lining the subarachnoid spaces, as well.[7]

(2) The arachnoidal granulations of the large, intracranial venous sinuses are the primary sites of absorption of the CSF. Absorption of the CSF probably occurs to some extent throughout the CSF spaces.[28]

(3) While it is true that CSF moves from areas of greatest production to areas of greatest absorption[7], nevertheless, the "pumping action" of the choroid plexus definitely creates a flow of CSF out of the ventricular cavities, contributing to its slow, progressive motion downward along the subarachnoid spaces posterior to the cord, and upward along the spaces anterior to the cord. Fluid then ascends within the subarachnoid pathways surrounding the brain stem, reaching the convexities of the brain and finally the parasagittal regions and the arachnoidal granulations through which it is then absorbed into the venous circulation.[10]

In *isotope cisternography*, the radioactive pharmaceutical is injected either into the lumbar subarachnoid spaces, by way of a spinal tap, or directly into the cisterna magna by way of a cisternal tap. The most commonly used isotope is I-131 Iodinated Human Serum Albumin, for convenience called RISA. The "flow" of the RISA is then followed by serial head scanning, preferably utilizing a scintillation camera.[3, 9, 16] Anterior and lateral scans are obtained at four, twelve, twenty-four, and

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forty-eight hours, unless otherwise indicated. Additional special views may be obtained when specifically necessary. The patterns of flow of RISA are very characteristic and quite constant.[3, 9, 10, 11] The position of the patient following the intrathecal injection of the radioactive compound does not seem to influence its upward flow in a significant way.[10, 22]

Four hours following the lumbar injection of RISA, the radioactivity has reached the basal and sylvian cisterns (Fig. 1-A). At twelve hours, the subarachnoid pathways overlying the cerebral hemispheres are well outlined. At twenty-four hours the greatest radioactivity is noted in the absorption areas, along the parasagittal regions of the brain (Fig. 1-B). At forty-eight hours, in the normal patient, very little activity can be detected within the head.

In children, the spread of the radioactive material is usually much faster, so that the first scans are usually obtained at thirty minutes after lumbar injection of RISA.[10]

Normally, the radioactive pharmaceutical injected into the lumbar subarachnoid spaces, or directly into the cisterna magna, does not "penetrate" the cerebral ventricles at all. Thus, any ventricular radioactivity must be interpreted as being definitely abnormal, probably indicating a vicarious absorption by the ependymal lining of the ventricles, secondary to obstruction to the flow of the CSF or to a defective absorption mechanism.[3, 9, 16, 17]

In a small number of patients, following the subarachnoid injection of the isotope there is leakage of RISA out of the subarachnoid space into the subdural or epidural spaces (Fig. 2). In these cases, there is no upward flow of the

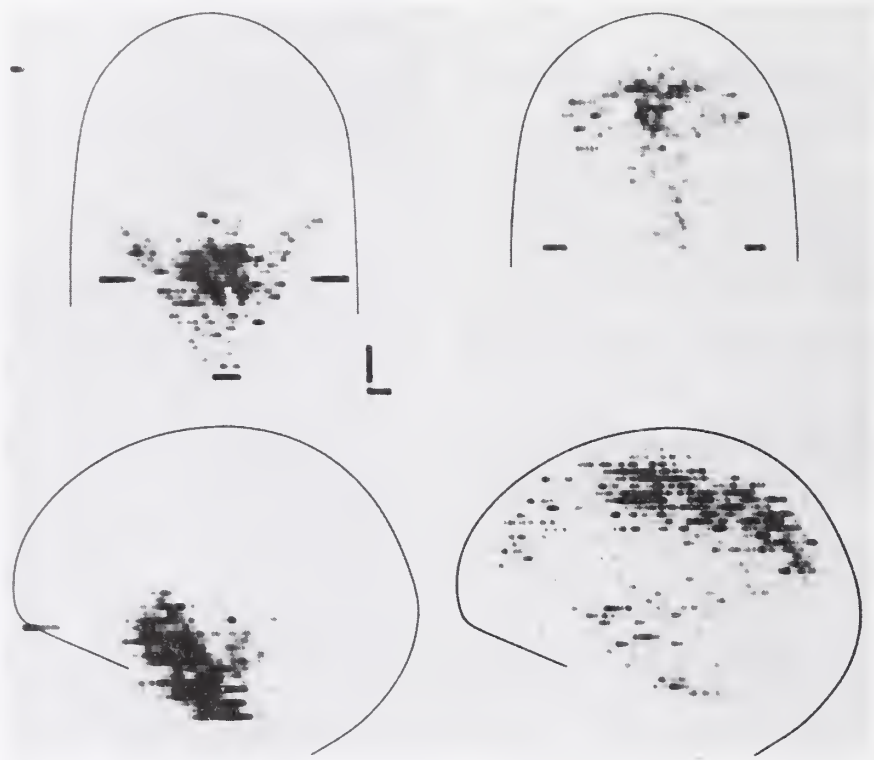

Fig. 1-A. Top left (AP view)—Four hours after the lumbar subarachnoid injection of 120 microcuries of RISA, the isotope has reached the basal cisterns, in the midline, and in the sylvian cisterns on each side.
Bottom left (left lateral view) same.

Fig. 1-B. (Top and bottom, right)—At 22 hours, the isotope has reached the absorptive areas on the upper parietal convexities, in the parasagittal regions, (normal study).

radiopharmaceutical, and the test, of course, will have to be repeated in one week or ten days.

Fig. 2. After 24 hours, the radioactive isotope has failed to flow cranialward and is still to be found in the lumbar cul de sac (typical appearance of a subdural injection of the isotope).

In *isotope ventriculography*, RISA is injected directly into the lateral ventricles, either by a ventricular cannula or via a reservoir interposing a ventriculostomy tube and a shunt system (Rickham, Ommaya, Mischler, Ames, etc.) (Fig. 3). The scanning examination is done as soon as the intraventricular injection is completed and, as usual, it includes the four standard views of brain scanning, anterior, both lateral, and posterior views. Followup scintigrams are then obtained, as the situation demands, to follow the movement of the tracer out of the ventricular cavities.[3, 9]

The radioisotope quickly distributes itself throughout the ventricular system. Unless an obstruction to its flow is present, it will be detected in the cisterna magna within ten or twenty minutes. Once the isotope has reached the cisterna magna, its subsequent flow follows the same pathways as when the isotope is injected into the lumbar subarachnoid spaces or cisterna magna, i.e., basal cisterns, sylvian and convexities subarachnoid spaces, and finally the parasagittal absorption areas. If a block is present in the outflow tract of the ventricular cavities, for instance in the aqueduct, the radioactive pharmaceutical will remain trapped within the ventricles and will be absorbed very slowly by the ependymal and subependymal layers. If a shunt system is available, then RISA will flow through it, thus providing us with a valuable estimation of the patency of these ventricular derivation systems.

Twenty-four hours prior to RISA cisterno or ventriculography, Lugol solution is given orally to the patient. This will block any uptake of the radioactive iodine by the thyroid gland. In children or infants we have made a policy to give Lugol solution also for two or three days following the test.

Major Clinical Applications

Hydrocephalus

It is not the purpose of this paper to describe or classify the different forms of pathological entities characterized by dilatation of the ventricular cavities (internal hydrocephalus). It is sufficient to say that this form of hydrocephalus is almost always the result of an obstruction to the flow of the CSF, either within or outside of the ventricular cavities. Less frequently, it is secondary to a defective or lacking absorption mechanism. The more common forms of obstructive hydrocephalus can be divided into the noncommunicating and the communicating types, depending on whether the obstruction lies within the ventricular system (for instance, a congenital obstruction of the aqueduct of Sylvius, or a tumor blocking the third or fourth ventricles will result in a noncommunicating type of hydrocephalus) or outside of the ventricular cavities.

Isotope cisternography has become an increasingly more important diagnostic tool for the evaluation of the different pathological substrata resulting in the communicating types of hydrocephalus. In these cases, the obstruction to the flow of CSF can occur at different levels of the extraventricular CSF pathways and can be readily demonstrated by the iso-

Fig. 3. Isotope ventriculography. Fifty microcuries of RISA were injected into the right lateral ventricle of this patient, via a Rickham reservoir attached to a ventriculoperitoneal shunt. The moderately enlarged lateral ventricles are well outlined (Top: AP view—Bottom: Right lateral view).

topic method, in certain instances even better than by pneumoencephalography.[3, 4, 6, 9, 17, 27]

A. Fairly diffuse obstruction of the CSF spaces may result from scarring secondary to subarachnoid hemorrhages or infections, or less frequently by congenital adhesions, by diffuse meningeal carcinomatosis or large subdural collections of blood or fluid.[3, 24, 25, 29] When the blockage is significant or critically located, such as at the level of the tentorial hiatus, the flow is impeded or arrested, and internal hydrocephalus will result. This event can take place within a few days following subarachnoid pathways obstruction, resulting from subarachnoid bleeding.[29] In these forms of communicating hydrocephalus, there are clinical and radiographic manifestations of increased intracranial pressure. The most significant cisternographic finding is that of penetration of RISA into the ventricular cavities with lack of flow over the usual subarachnoid pathways leading to the parasagittal absorption sites (Fig. 4). The presence of radioactivity in the lateral ventricles represents a reversal of the normal flow of CSF and most likely signifies a compensatory increase of the CSF absorptive function on the part of the ependymal linings of the ventricular system.[17] The radioactivity within the ventricles generally appears as early as three or four hours after the subarachnoid injection of the tracer and very frequently will persist (ventricular stasis).

Patients with this type of hydrocephalus often will greatly benefit from a ventricular shunt, which diverts the CSF from the ventricular cavities either into the right atrial chamber of the heart or the peritoneal cavity.

In some cases of subarachnoid bleeding, there is no ventricular penetration of RISA and cisternography shows only arrest of the radiopharmaceutical at the level of the tentorial hiatus (Fig. 5).

B. Occult, obstructive hydrocephalus, or "normal pressure hydrocephalus," as first described by Adams, et al.,[1, 4, 6, 7] is a late onset hydrocephalus occurring in a small group of adults, presenting a fairly typical clinical picture characterized by progressive dementia, mainly apathy and forgetfulness, but occasionally even by akinetic mutism, as well as by gait disturbances, urinary incontinence, and bilateral pyramidal sign. In severe cases, the patient becomes mute, helpless, and appears totally demented. This condition generally evolves over a period of weeks or months and can appear without any noteworthy preceding illnesses, although in some cases there is history of spontaneous subarachnoid hemorrhage or of head trauma.[4] The spinal fluid pressure in these patients is essentially normal.[1, 3, 17, 19]

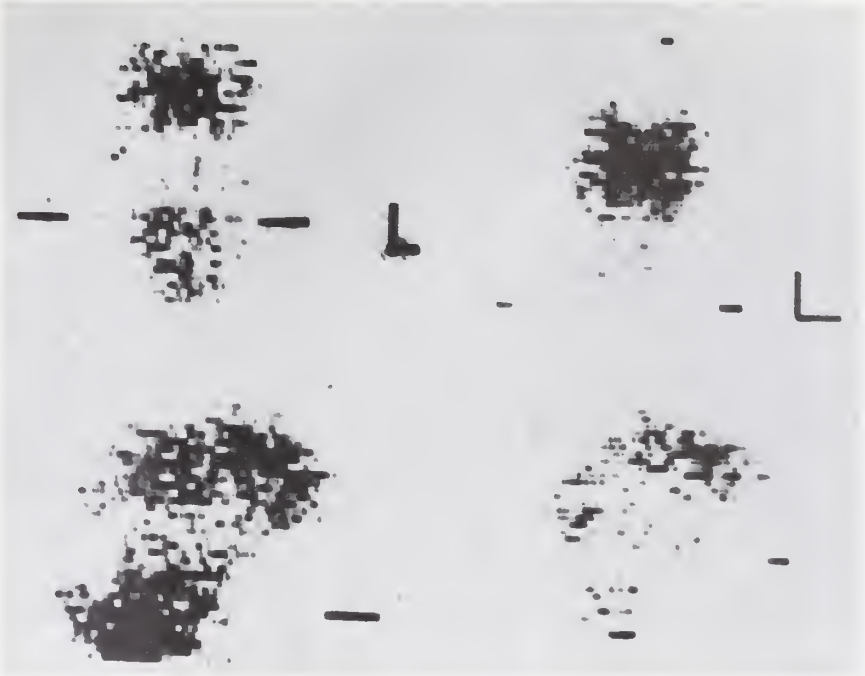

Fig. 4. Cisternography in a case of postmeningitic hydrocephalus. Top and bottom left scans show the accumulation of RISA in the basal cisterns, lack of convexity flow as well as ventricular penetration, eight hours after the injection of the isotope. The ventricular cavities are grossly dilated.
Top and bottom right scans show that at 24 hours there is still marked radioactivity in the lateral ventricles (ventricular stasis).

The pneumoencephalogram will demonstrate marked ventricular enlargement, with lack of air in the subarachnoid spaces of the cerebral convexities.[4, 6, 19] Treatment by a shunt procedure in many cases will result in dramatic restoration of mental function. It is obvious then that recognition of these occult forms of hydrocephalus becomes a very important goal in the differential diagnosis of organic dementia. Isotope cisternography can play a very large role in the proper identification of demented patients and in separating them from those with cerebral atrophy who would not benefit from the shunting, diversionary procedures. In the patient with "normal pressure hydrocephalus," the isotopic cisternographic pattern is essentially indistinguishable from that of overt, "high-pressure" communicating hydrocephalus, as described above—i.e. delayed movement of the radiopharmaceutical, penetration and stasis of the isotope into the ventricles, with failure of the isotope to follow the normal patterns of flow of the CSF. In the patient with brain atrophy (primary atrophic communicating hydrocephalus or hydrocephalus ex vacuo), there will be instead delay in the movement of the injected isotope through the subarachnoid spaces and, in some cases, even entry of RISA into the ventricular cavities. However, after a delay of twenty-four or forty-eight hours, there will also be a uniform flow of the radioactive pharmaceutical out of the ventricular cavities and into and along the subarachnoid spaces of the cerebral convexities up to the parasagittal regions.[3, 6, 17, 19] Patients with this cisternographic picture do not benefit from a shunting procedure.

Regional Obstruction of CSF

Subdural hematomas and effusions[24, 25], cerebral infarcts[2, 24], intracranial tumors or masses[27], subarachnoid hemorrhages or infections resulting in arachnoidal adhesions[5, 24, 29] may cause partial obliteration of the subarachnoid spaces, which can be readily detected and properly localized by isotope cisternography, which will demonstrate a lack of flow of the injected radiopharmaceutical through localized

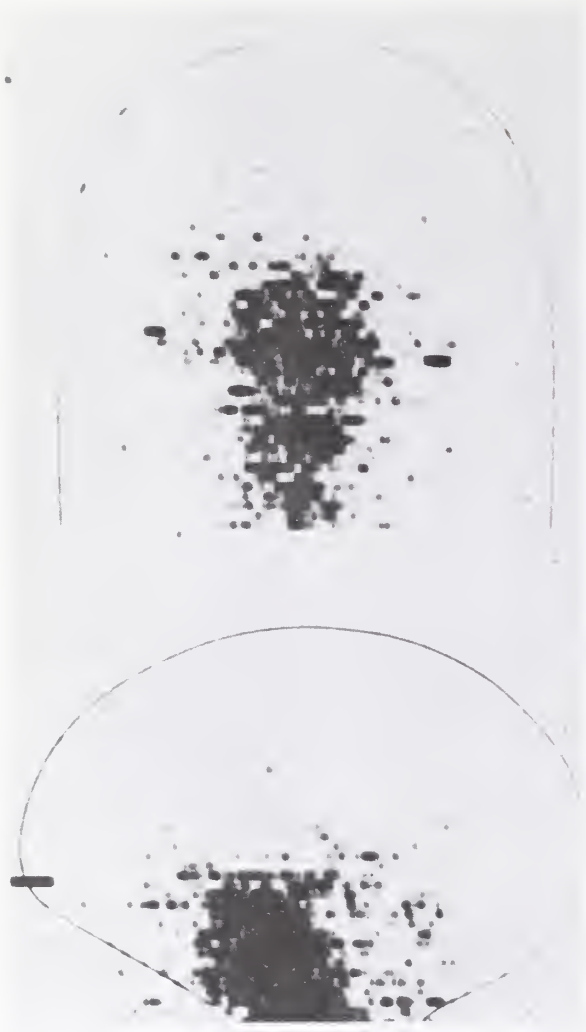

Fig. 5. Typical example of tentorial block to the flow of RISA (subarachnoid hemorrhage). All the radioactivity is confined within the basal cisterns. Even at 24 hours there is no flow above the tentorium.

areas of the cerebral convexities (Fig. 6). The test, of course, has no value in the etiological diagnosis of the obstruction (Fig. 7). Its real value lies in the fact that it points to a very specific area of disturbed or impeded flow of the CSF.[24, 25] On occasions the serendipitous finding of radioisotopic ventricular penetration and stasis may also greatly contribute to the therapeutic management of some of these patients.

Evaluation of Surgical Ventricular Shunts

Ventriculo-atrial or ventriculo-peritoneal shunts are the two most common surgical shunting procedures used to relieve the ventricular dilatation which accompanies the non-communicating and the communicating types of hydrocephalus. It is not always easy to demonstrate patency and function of the ventricular shunt systems, even when it appears that the valve, which is usually interposed to regulate the flow of the CSF out of the ventricle, is "pumping" adequately. Obstructions can occur both at the ventricular end of the shunt system and at the distal end (atrium, superior vena cava, or peritoneal cavity.) These obstructions will require at times frequent revisions of these shunts.

There are different techniques utilizing isotopes to determine that the shunt system is patent.

A. The radioactive pharmaceutical can be injected directly into the ventricle via the reservoir which is frequently attached to the ventricular cannula.[12] The isotope will rapidly diffuse throughout the ventricular system and then will flow out through the shunt either into the venous circulation or into the peritoneal cavity, depending on the type of shunt used. Scanning the head at the appropriate time will demonstrate this flow quite readily. RISA ventriculography will also give us information regarding the size of the ventricle, as well.

In the evaluation of patency of a ventricular peritoneal shunt, scanning the abdomen will reveal fairly prompt radioactivity within the peritoneal cavity, shortly after the ventricular injection of the tracer (Fig. 8).

B. Measuring the levels of radioactivity in the venous blood at certain intervals, both before and after intraventricular injection of the isotope, enables one to construct a curve and to determine the speed and volume of flow with which the isotope is shunted into the venous circulation, thus the functional patency of the ventriculo-venous derivation can be evaluated.[18, 28]

C. Injection of the radioactive pharmaceutical into the lumbar subarachnoid space will also test the patency and proper function of the shunt system in cases of communicating

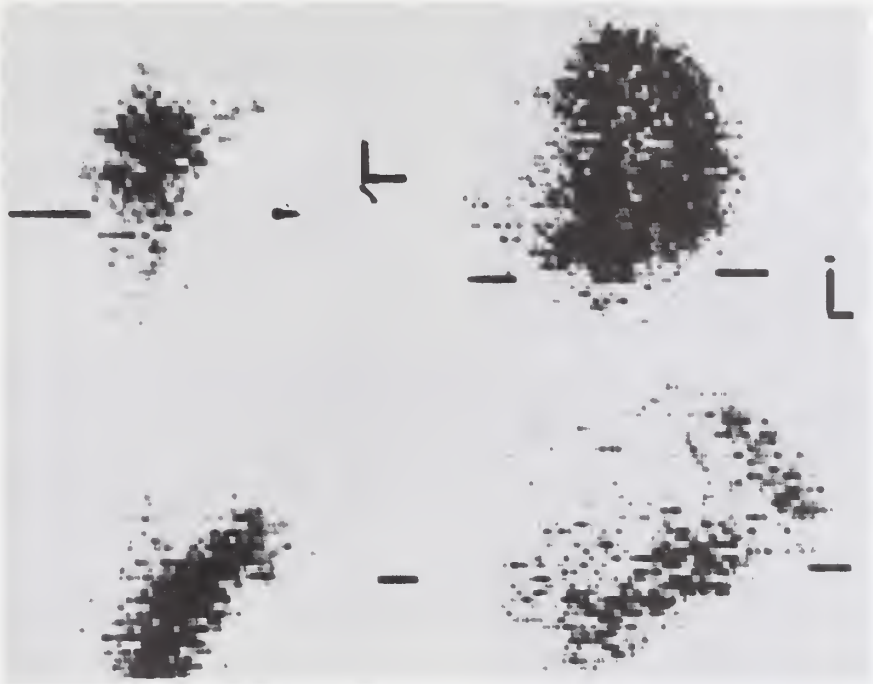

Fig. 6. Patient with large right hemispheric infarct, showing very little, if any, flow of the isotope over the right convexity (top and bottom left at four hours; top and bottom right at 12 hours).

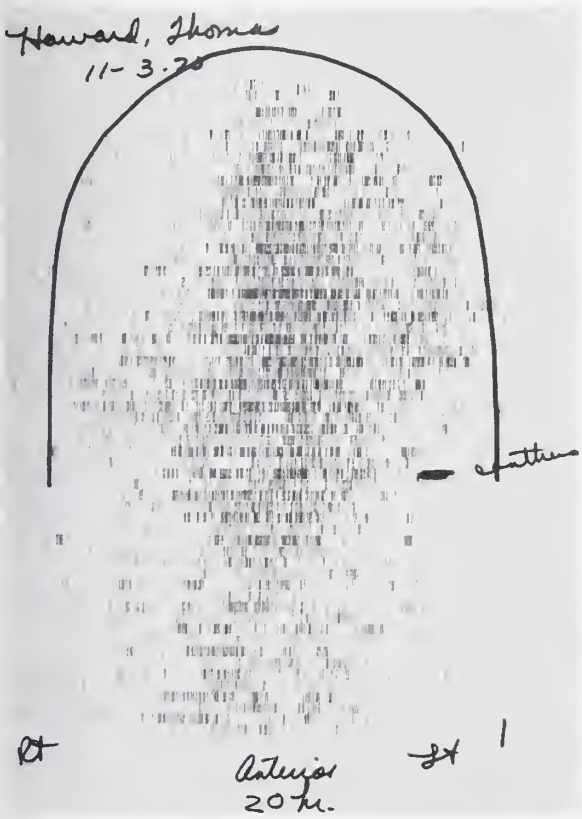

Fig. 7. Patient with a chronic subdural hematoma. At 20 hours, RISA cisternography reveals no flow of the isotope along the right convexity.

hydrocephalus. When the shunt system is working properly, RISA will flow quite rapidly towards the shunt, with most of the radioisotope reaching the ventricular system in about three or four hours. From then on, there will be fairly rapid emptying via the shunt, with most of the isotope removed from the ventricles in about twenty-four hours.[12]

Diagnosis and Followup of Spontaneous or Traumatic Cerebrospinal Fluid Rhinorrhea and Otorrhea

Patients with fistulous tracts leading to CSF otorrhea or rhinorrhea, both of the spontaneous and, more frequently, of the traumatic variety, not infrequently present very difficult problems both of diagnosis and therapy. The most important achievement of the diagnosis is proper identification of the exact location of the fistula. This is, at best, difficult and not infrequently these patients have to be subjected to repeated craniotomies before successful closure of the fistulous tract can be achieved. Recurrent bouts of meningitis make it imperative for us to identify and correct

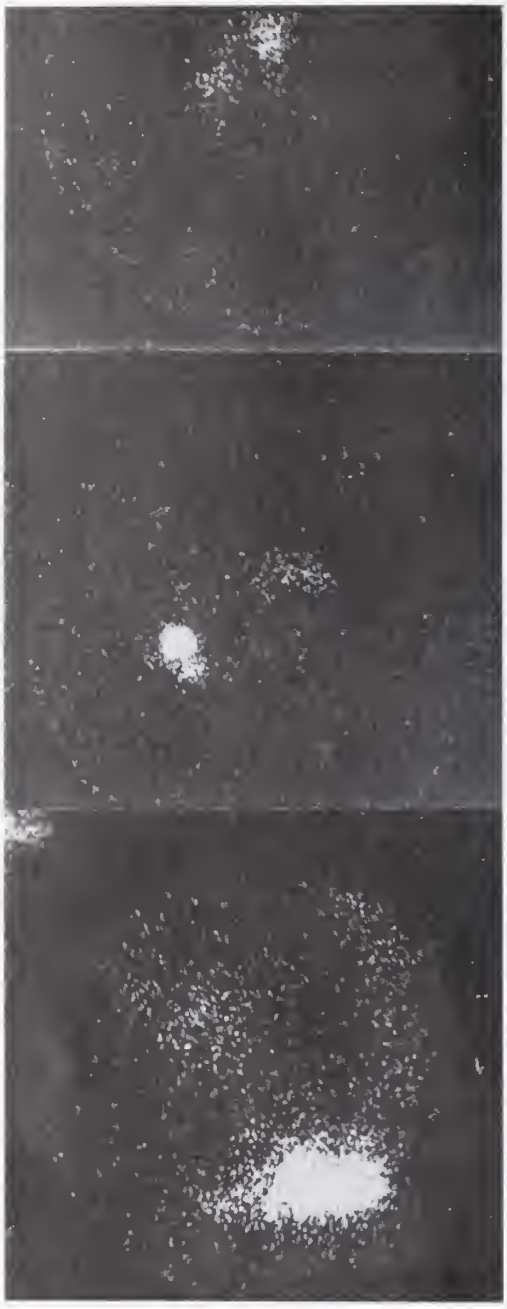

Fig. 8. Patient with a glioma of the third ventricle. The isotope was injected into the right lateral ventricle via a Rickham reservoir attached to a ventriculo-peritoneal shunt.

Top scan (AP) showing the outline of the right lateral ventricle. Notice that no activity is seen in the left lateral or in the third ventricle.

Center scan (right lateral view) showing some residual ventricular activity anteriorly, with most of the radioactivity confined to the Rickham reservoir.

Bottom scan (AP abdomen) showing great accumulation of radioactivity within the peritoneal cavity.

these potentially lethal, abnormal communications between the subarachnoid spaces and the cavities of the ear and nose. Cisternography and ventriculography, using radioactive pharmaceuticals, have proved to be very accurate in identifying the fistulous sites, especially in patients with active CSF leakages, who otherwise have only questionable radiological evidence of the abnormal tract. While numerous other procedures for the diagnosis of CSF rhinorrhea or otorrhea are available to us (including the use of dyes, Pantopaque or detailed tomographic studies), RISA cisternography and ventriculography give us the opportunity both to identify the radioactive trail, which betrays the site of the abnormal communication, as well as to follow up these patients after surgery.[13] (Fig. 9).

Risks and Complications

The potential risks and complications of isotope cisternography and ventriculography are of three major types.[3]

1. The risk inherent to the lumbar, cisternal or ventricular puncture, especially in cases of increased intracranial pressure.[24]

2. Toxicity of the radioactive compound and potential contaminants. Sporadic reports of transient side effects to the intrathecal injection of RISA have appeared in the literature [5, 8, 20, 21, 22] describing an aseptic, chemical type of meningitis with high fever, chills, vomiting, headaches, stiff neck, and confusion. This syndrome generally lasts twenty-four or forty-eight hours and is followed by complete recovery. The etiology remains uncertain, although various factors have been implicated: the amount of protein injected, hypersensitivity reaction, inadvertent contamination with detergents, disinfectants, or even bacterial contamination.

In more than ninety RISA cisternographies and ventriculographies that we have performed since 1968, we have observed only a few cases of transient fever and stiff neck. CSF examination has shown a mild leucocytic reaction. All of these patients have recovered very promptly, without lasting after effects.[24]

3. The amount of radiation to the CNS following the injection of the radioactive compound is small.[3, 14] I-131 produces, in addition to the gamma rays used for scanning, a considerable amount of particulate beta radiation. However, even with stasis of RISA in the spinal canal, regardless of cause, the maximum dose to the spinal cord or nerve roots does not exceed quite acceptable levels. Other agents, with no beta particle emission, have been investigated; but RISA is still the most widely used radiopharmaceutical for cisternography and ventriculography.

Fig. 9. Isotope cisternography showing marked accumulation of radioactivity within the sphenoidal sinus at eight hours (left and center scans) and at 24 hours (right scan), in a patient with spontaneous cerebrospinal fluid rhinorrhea.

Conclusion

RISA ventriculography and cisternography appear to be safe procedures, their potential diagnostic value far outweighing the temporary discomfort, which may be experienced by a few patients. These diagnostic procedures do not replace the more conventional neuroradiological procedures, such as pneumoencephalography or ventriculography. Rather, they complement these investigations by providing additional information regarding abnormal states of flow and distribution of the CSF without significantly altering the normal or abnormal hydrodynamic relationship within the subarachnoid and ventricular spaces.

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Addendum: During the last several months, we have used Ytterbium-169 instead of RISA. In more than thirty Ytterbium-169 cisternographies, we have found this isotope to be preferable to any other we had previously used.

List of references may be secured from authors.

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11 Bruton Avenue
Newport News, Virginia 23601

Cancer Trends....

Edited by—

WALTER LAWRENCE, JR., M.D.
Richmond, Virginia

J. SHELTON HORSLEY, III, M.D.
Charlottesville, Virginia

Soft Part Sarcomas in Adults

JOSE J. TERZ, M.D.
WALTER LAWRENCE, JR., M.D.

Although the soft somatic tissues comprise the form and substance of the body and over 50% of the body weight, less than 1% of cancers in the adult arise from these tissues. In view of this low incidence it is not surprising that there is often some clinical confusion regarding the natural history and prognosis, as well as the appropriate treatment method, when the diagnosis of sarcoma is made.

The classification of sarcoma is based on presumed histogenetic origin from various non-epithelial mesenchymal structures. While some lesions can be clearly defined in terms of their origin from fat, muscle, fibrous tissues, synovial membranes, nerve or blood vessels, a number of sarcomas will not be adequately differentiated to fit into a clear-cut classification and must, therefore, remain "spindle cell" sarcomas or sarcomas of unknown histogenesis. The relative proportion of these various forms of soft part sarcoma tend to vary somewhat in the reported series depending to some degree on the criteria used by the pathologists concerned, but there are general principles of clinical management that apply irrespective of these diagnostic differences. The diagnosis of a specific form of sarcoma usually affects the prognosis to a larger degree than the therapeutic approach.

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From the Division of Surgical Oncology, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia.
LAWRENCE, WALTER, JR., M.D., *American Cancer Society Professor of Clinical Oncology.*
TERZ, JOSE J., M.D., *Professor of Surgery.*

Diagnosis

Although several sarcomas have clinical presentations of unique character, particularly those arising from or involving the skin, the typical diagnostic problem is that of a solitary mass in the soft tissues of the extremities, trunk, retroperitoneal space, or the head and neck region.

In those instances where the mass is accessible, our general approach is to perform an open incisional biopsy under general anesthesia if the mass is of significant size. Although there are others that prefer aspiration biopsy to a formal open biopsy, the latter technique has several advantages. The first is that this approach prevents over-treatment at the first procedure if the diagnosis proves, unexpectedly, to be either a benign tumor or a metastatic lesion from an unrecognized occult primary cancer. Secondly, a careful attempt at classification using adequate biopsy material may alter the details of the primary therapy to be directed toward the tumor in question. For example, a primary lymphoma of the soft tissues or Kaposis's sarcoma will be treated most effectively by primary irradiation therapy.

Surgical Approach

Many of these soft part neoplasms have the misleading appearance of being pseudoencapsulated. This feature could lead the inexperienced surgeon to the enucleation of the entire tumor without achieving a margin of normal tissue. Such an inadequate procedure usually leads to a high incidence of local recurrence (80%) and seriously jeopardizes the chances of permanent control of the neoplasm. Proper management of these tumors requires the radical resection of the neoplastic mass with an adequate envelope of normal tissue, so all the possible local ramifications of the tumor are eliminated. This may include skin, subcutaneous tissue, adjacent muscle and fibrous tissue, and the biopsy site itself. To adhere to these principles in the extremities it is usually necessary to remove involved and adjacent muscle groups (quadriceps, hamstrings, etc.). However, the proximity of the tumor to joints or bones, anatomical locations in the *distal* portion of the extremity, or a tumor overlying the shoulder or pelvic girdle, requires removal by amputation to achieve adequate margins. Compromise in the effort to achieve desirable margins in order to preserve a limb (or its vascular supply) will usually result in failure of local tumor control and may also allow distant metastasis before this failure is clinically evident. The same principles of surgical resection apply to primary sites other than in the extremities, but the option of total ablation by amputation is obviously not available to the surgeon.

The regional lymph nodes may be a site of metastasis with a frequency depending on the histological variety of the sarcoma (5% to 50%). However, elective lymph node dissection is not indicated in management of most soft part sarcomas since the majority of these lesions in adults have an incidence of metastasis too low to justify the morbidity of the procedure unless the lesion is anatomically situated in the groin or axilla.

Radiation Therapy

Although surgery is the preferred means of management for soft part sarcomas, the radiosensitivity of many sarcomas is often unappreciated. Irradiation has completely controlled the local disease in many patients with soft part sarcoma and it has also been an effective tool in terms of palliative therapy. Evaluation of the role of irradiation in the management of patients with sarcoma unfortunately depends on retrospective data using different types of equipment and varying treatment plans. Nevertheless, histologic sterilization of the local sarcoma was achieved in 24 of 72 patients with various types of sarcoma that were treated pre-operatively by irradiation at Memorial Hospital in New York. In the same series, 42 of 58 patients in whom the clinical response could be assessed showed objective signs of response (72%). Some histologic types were particularly responsive (i.e. liposarcoma) and some were relatively resistant, but some responses were observed with all types of sarcoma. Despite the retrospective nature of these data, they do support the logic of employing irradiation therapy as a palliative tool and possibly as a preoperative adjunct. A cooperative clinical trial would be required to reliably determine whether improved survival rates can be achieved in "curable" cases with preoperative irradiation therapy, and data of this type are not available at the present time.

Characteristics of Individual Forms of Sarcoma

Liposarcoma: This is the most common of the soft tissue sarcomas in adults and bears no relationship to lipomas. It usually arises along the fascial planes and perivascular spaces in the lower extremities (thigh), retroperitoneum (around kidney and mesentery) and shoulder girdle. Three histologic varieties are recognized: the well-differentiated, the myxoid and the pleomorphic types. In most circumstances these tumors will present as a relatively "pure" form, but it is not unusual to find more than one pattern in the same tumor or a change in

histological pattern when recurrence or metastasis of the original tumor occurs. The well-differentiated and myxoid types have the best prognosis while the pleomorphic form carries a poorer prognosis. The retroperitoneal presentation of liposarcoma has a low survival rate compared with liposarcomas in the extremities. This is due partly to the fact that surgical eradication is seldom as complete as in other sites since the principles of surgical treatment previously described cannot usually be applied due to the involvement of, or the close proximity to, vital structures. The five year survival of retroperitoneal liposarcoma is 24% and the ten year survival is in the range of 10%. In contrast to this, the resection of liposarcomas of the extremities have better results at both five and ten years after treatment in our institution (80% and 64% respectively). Liposarcomas are considered quite radiosensitive and radiotherapy is probably a useful adjuvant measure in the management of these tumors if the surgical resection must be compromised in any way.

Rhabdomyosarcomas: These sarcomas originate from striated muscle and are commonly found in the extremities of adults (84%) but may arise in other sites. Together with the liposarcoma and fibrosarcoma, they constitute the most common type of soft tissue sarcomas in adults (80%). There are three varieties which not only differ in histological pattern, but also in anatomical distribution, age of appearance and natural history.

1. Alveolar Type: This has a pseudoalveolar pattern, and the presence of solid or medullary areas make the differential diagnosis from lymphosarcoma, melanoma, poorly differentiated adenocarcinoma, or the other forms of sarcoma somewhat difficult. It usually is seen in younger individuals between the tenth and twentieth years of age, particularly in the arm and forearm, but may arise in the perirectal or perineal areas. The overall prognosis of this histologic type of rhabdomyosarcoma is quite bleak and few patients live five years or more.

2. Pleomorphic Type: This variety usually occurs in adults between 50 and 70 years of age and is predominantly found in the extremities. The survival rate is lower than with most other types of soft part sarcoma at the Medical College of Virginia, the five and ten year survival rates being 29% and 25% respectively.

3. Embryonal Type: This is the most frequent of the soft tissue sarcomas in children and frequently develops in the head and neck area, particularly around the orbit. This same histologic type of tumor is also found in the adult where it carries an extremely poor prognosis despite resection, and frequently develops metastasis early in the course of the disease. The reported five year survival rate is less than 15%. On the contrary, the prognosis of this lesion in children has changed significantly since 1960. Prior to that time the survival rate obtained from surgery alone was similar to that observed in adults; however, with aggressive combination of radiation therapy, surgery and chemotherapy, over half of the children with this tumor are now alive at five years.

Synovial Sarcoma: This tumor develops in the extremities in 95% of cases but does not usually appear grossly associated with a joint lining. The cellular component shows all the stages of differentiation leading to difficulty in differential diagnosis. Due to proximity to joints, in most instances an amputation is the treatment of choice for eradication of the tumor. Approximately 20% of the tumors will actually involve the regional lymph nodes and we know of none of these patients with node metastasis that has survived. The five and ten year survival for all synovial sarcomas is 25% and 12% respectively.

Malignant Schwannoma: This tumor arises from peripheral nerve tissues and usually appears as a mass on the trunk or extremities. This lesion seldom involves a major nerve trunk or shows any evidence of regional neurological deficit. The five and ten year survival rates after surgery are 65% and 58% respectively, but the best results are obtained when the lesion is on the extremities. A number of patients with neurofibromatosis (von Recklinghausen's disease) will develop a ma-

lignant Schwannoma and in this particular group of patients the five year survival is reduced.

Fibrosarcoma: This tumor may appear at any age, and usually develops in the trunk, extremities, or the head and neck. Fibrosarcomas are locally aggressive and their ability to produce metastases depends to some extent on the degree of differentiation. They are often slow growing, but they infiltrate the surrounding tissues and conservative surgery is associated with a high incidence of local recurrence (ranging from 30% to 60%). The five and ten year survival rates for this tumor at the Medical College are 82% and 73% respectively.

The fibrosarcoma must be differentiated from two other very similar lesions, the desmoid tumor (abdominal or extra-abdominal) and dermatofibrosarcoma protuberans, a sarcoma of dermal origin. These tumors histologically resemble fibrosarcomas, and the differentiation of the three is based essentially on the distribution of fibrous and cellular components. They are all locally aggressive with a high tendency for local recurrence, and they may each cause the patient's death from direct invasion of vital structures in the head and neck, trunk or retroperitoneal area. Dermatofibrosarcoma can be suspected clinically from the fact that it appears as a large boss-like skin nodule which involves the subcutaneous and other underlying tissues. Distant metastases have been reported with these two lesions but are uncommon in contrast to the standard fibrosarcomas.

Alveolar Soft Parts Sarcoma: The origin of the tumor is not well defined. It is very slow growing, tends to occur in the female population and has a high incidence of distant metastasis. Recurrence and has been observed even 20 years after the original treatment. The five and ten year survival after surgery is 59% and 47% respectively.

Epithelioid Sarcoma: This tumor, which has only been recently recognized as an entity usually appears in younger individuals and develops in the soft tissue of the hand, forearm and leg. The gross lesion has been mistaken clinically for a chronic inflammatory process as well as necrotizing granuloma or squamous cell carcinoma. The five year survival free of disease in a small series is only 10%, but 40% of the patients will be alive with the tumor after five years.

Leiomyosarcoma: These may arise from the smooth muscle wall of the inferior vena cava or from the femoral or popliteal vessels but may also occur in the soft tissues. These neoplasms are histologically identical to the more common lesions originating in the gastrointestinal tract. Radical surgery results in 50% five year survival in most sites while the rare retroperitoneal lesions generally have a poor prognosis.

Angiosarcoma: The arterial vessels give rise to several forms of sarcoma, all relatively rare. Angiosarcoma may present as a vascular, aggressive, soft part tumor and this uncommon form of sarcoma has a significant incidence of regional lymph node involvement (45%). Wide resection, with or without regional lymph node dissection, and amputation both frequently fail to control this disease as there is a high incidence of hematogenous metastases. Nevertheless, the same principles of resection employed for most soft part sarcomas, combined with regional lymph node dissection, seem appropriate for this lesion, and we believe (without data) that irradiation therapy, either preoperative or postoperative, should generally be part of the treatment plan. In some sites (i.e. the breast) there are virtually no long-term survivors but we have had one long-term survivor, a patient with angiosarcoma of the thigh with limited surgery as the only treatment and one patient who is well three years after radical mastectomy for a primary angiosarcoma of the breast.

Hemangiopericytoma: This sarcoma arising from the capillary pericyte is a more indolent sarcoma of blood vessel origin, but it is associated with a much lower survival rate at ten years than at five. The general principles of therapy outlined for other sarcomas apply to this lesion, although the late nature of recur-

rences has unfortunately led some surgeons to be less aggressive with these lesions.

Kaposi's Disease: Kaposi's disease, or idiopathic multiple hemorrhagic sarcoma, falls into the category of soft part sarcoma of blood vessel origin. The clinical presentation is so unique that the general principles of diagnosis and treatment that have been outlined for other lesions do not really apply here. It generally has its onset as a single bluish red macule on the skin of the extremity and this is frequently not noticed until multiple lesions appear which gradually coalesce into plaques. Although primary lesions in the viscera or lymph nodes may precede the classic skin lesions on the extremities, the usual presentation is a bilateral stocking distribution of skin lesions on the lower extremities. Kaposi's disease is often associated with chronic lymphedema or venous stasis in the lower extremities, and it is of interest that a similar lesion, lymphangiosarcoma, usually has its origin in either the upper or lower extremity that is the site of chronic lymphedema. A classic example of this latter lesion is the lymphangiosarcoma originating in a chronically edematous arm after radical mastectomy (Stewart-Treves Syndrome). In contrast to the other sarcomas discussed, the treatment of Kaposi's sarcoma is usually "palliative" and survival before terminal visceral dissemination may be quite prolonged. Irradiation therapy has been a useful method of management but eventual reactivation of the skin lesions is the rule. Regional perfusion with alkylating agents has been useful in a few patients at this stage of the disease, and intra-arterial-nitrogen mustard has been used effectively as primary treatment (instead of irradiation) in Africa where this disease is prevalent.

Palliative Treatment of Recurrent or Metastatic Sarcoma

The undetermined role of preoperative irradiation therapy of sarcomas was previously discussed. Irradiation can also be quite useful for palliative treatment of recurrent or metastatic sarcoma, and histologic features cannot absolutely predict the response or absence of response for the individual case. In most instances it is more likely to produce therapeutic benefits than systemic chemotherapy if the pattern of the disease is regional and is amenable to this method.

Surgery may also play a palliative role in patients with recurrent or metastatic sarcoma. Some of the low grade tumors (desmoid, dermafibrosarcoma protuberans, and myxoliposarcoma) are often subjected to multiple surgical procedures for local recurrence before eventual control is achieved. Another role for surgery, in terms of palliation, is surgical resection of lung metastases in selected patients. For obvious reasons this has been effective in patients with the primary focus of disease under control, an apparently single metastatic focus in one lung, and a long interval (preferably three to five years) between the treatmeant of the primary lesion and the radiographic appearance of the pulmonary metastasis. With careful case selection approximately 30% five year survival can be expected by local resection of the metastasis or lobectomy but this figure is more of an indicator of the nature of the disease in the patients so selected than the operative benefits of excision. Another guide to the selection of patients who may be benefited by surgical excision of pulmonary metastases is the calculation of "doubling time" of the metastasis from serial radiographic measurements.. Under some circumstances (specifically patients with calculated doubling times over 40 days) even bilateral thoracotomy may be indicated for limited metastatic disease. Sarcomas for which we have found pulmonary resection of metastasis useful include liposarcoma, fibrosarcoma, malignant Schwannoma, and "sarcomas of undetermined histogenesis".

Chemotherapy: The soft part sarcomas are a group of cancers in the adult that respond poorly to most forms of systemic chemotherapy now available. This is in contrast to the striking results that have been seen with actinomycin D in some childhood sarcomas. With the drugs currently available there have

been few worthwhile responses achieved, but the extent of the chemotherapeutic trials has been limited by the low overall incidence of sarcoma. A single report describes eight "worthwhile" remissions with methotrexate in a series with 11 patients so treated, but most investigators have been discouraged by single agents as well as combinations of agents that have been employed. A new agent currently showing promise is adriamycin. In view of this general experience there may be justification for the earlier use of single and multiple drug experimental therapeutic programs as they are developed.

Regional administration of chemotherapeutic agents, particularly alkylating agents (PAM), produced a higher incidence of clinical response in most trials but the incomplete nature of the response obtained generally led to little palliative benefit in our experience. In addition, the problem in the palliative management of sarcomas is usually the control of disseminated disease. For these reasons we no longer employ regional chemotherapy with our currently available agents.

Immunotherapy: As with malignant melanoma, exciting new clinical data has appeared to support the presence of tumor specific transplantation antigens in human sarcoma, as well as the appearance of serum antibodies to these antigens under certain clinical conditions. This is particularly hopeful for the future of clinical immunotherapy as these data appear to demonstrate a common antigen for sarcomas of differing histologic types. Immunotherapy is clearly investigational at the present time, but there appears to be realistic hope for some success in the future.

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Comment

It is clear that an accurate diagnosis for soft tissue masses is essential before proceeding with any form of treatment in order to avoid an inadequate approach that may prejudice the possibility of subsequent effective local control of a sarcoma. "Shelling" the tumor out of its bed at time of biopsy may violate tissue planes to the extent that subsequent adequate therapy may be compromised. It is also agreed that most soft part sarcomas are treated most effectively by radical surgical resection with normal tissue margins to accomplish permanent local control of the disease. However proper histologic classification from preliminary biopsy does allow the choice of radiotherapy for those lesions for which this is the preferred treatment. Radiotherapy is also clearly beneficial for palliative therapy of the local process in many instances and it may eventually be demonstrated that preoperative radiotherapy has a role as an adjuvant to adequate surgical treatment of soft part sarcoma. There is rationale to this approach but no data to actually support it.

Treatment of metastatic disease in patients with soft part sarcoma is much more difficult to outline than the treatment of the primary lesion. Anti-cancer chemotherapy, with single agents that were available, has been disappointing in the past, but new agents or combinations of agents appear to have more promise for palliative systemic therapy in the future. Immunotherapy is also a possible adjuvant to other forms of therapy, but this approach does not yet have an established role.

As with most forms of cancer, the best therapeutic plan is developed after the details of the diagnosis and adequate staging are determined.

The Editors

MINOR HEAD INJURIES—Ferry-Newby
(*Continued from page* 277)

cluded that apart from diagnosing a depressed skull fracture, the study served no useful purpose and was of no help to the physician in his immediate treatment of the patient and no more reliable guide to subsequent complications than careful clinical assessment. Skull x-rays were obtained on all of our patients. Fractures were present in 30%. This information was of no value in predicting subsequent complication.

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213 McClanahan Street, S.W.
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Medical Grand Rounds . . . .

From The Medical College of Virginia
Drug-Induced Lupus Erythematosus

Edited by

DUNCAN S. OWEN, JR., M.D.
P. FRANKLIN MULLINAX, M.D.
EMMETT C. MATHEWS, JR., M.D.

Case Presentation

Dr. Michael Miller: The patient, T. J., is a 58 year old female domestic worker, who presented to the Clinic in July of 1973 with arthralgias of one month duration. The symptoms were mainly aching and morning stiffness without swelling in the PIP and MCP joints. Later the wrists, ankles, knees and shoulders bilaterally became progressively involved. Her family physician prescribed indomethacin (Indocin®). After 30 days she had not improved and was referred to the MCV Clinic.

Her past medical history revealed that she had been taking INH (isoniazid) 300 mg a day. A five unit PPD was positive in March of 1973. The INH was instituted because her husband had been diagnosd as having active pulmonary tuberculosis.

Physical examination revealed a temperature of 100°. There was increased heat, swelling, tenderness on palpation, and pain on motion of the finger PIP and MCP joints. The ankles, knees, wrists were also involved. No definite effusion could be demonstrated. There was slight tenderness and pain on motion in both shoulders.

Laboratory data: Hemoglobin 12.5 gm/100 ml. WBC 4,200/mm^3 with a normal differential. Urinalysis was normal. Erythrocyte sedimentation rate (Wintrobe) was 34 mm/hr. SMA 12 was normal. Creatinine clearance was normal and 24 hour urine protein excretion was less than 100 mg. Rheumatoid factors studies were negative. Two LE preps were positive. Antinuclear antibody was positive in a titer of 1:800 with a diffuse pattern and with some peripheral pattern. Serum complement was normal.

Out-patient course: The diagnosis of drug-induced lupus erythematosus was made. INH was discontinued and salicylates instituted. She did not improve and we questioned whether she was actually taking salicylates. However, the salicylate level was 26 mg%. Oxyphenbutazone was added to her regimen. Her symptoms continued even after intra-articular prednisolone. It was decided to institute systemic prednisone therapy in August 1973, at a dose of 5 mg. four times a day. She immediately began to feel better, there was marked objective improvement and she retured to work. Prednisone was gradually decreased and discontinued in October. Since then she has been symptom free. Ethambutal was substituted for INH and there have been no complications. She is back at work and feeling well. A repeat ANA titer was negative.

Dr. Duncan Owen: This particular patient certainly exhibited a good example of the type of patient that we see with drug-induced lupus. I am sure many of you have questions in your mind concerning the drugs that can do this. We will go over most of the drugs that have been reported to cause a drug-induced lupus syndrome. Another question which we will discuss is: is this really a true

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case of idiopathic systemic lupus erythematosus and the drug was just the straw that broke the camel's back?

Hargraves in 1948 at the Mayo Clinic described the LE cell and in 1954 Dustan from the Cleveland Clinic described drug-induced lupus due to hydralazine.[1,2] This was the first documented case of drug-induced lupus. Subsequently other drugs have been reported either to have lupus-inducing or "activating" potential.

There appear to be two types of reactions: I. Those having peculiar pharmacologic properties. II. Those eliciting allergic reactions. There are three subtypes of Group I: 1. the Hydrazides (hydralazine and INH); [The patient that was just presented by Dr. Michael Miller is a typical type of INH reaction, and we will talk more about INH in a few minutes.] 2. the anticonvulsants; [Most all of the anti-convulsant medications can do this and include diphenylhydantoin and hydantoin-type drugs for grand mal as well as petit mal type drugs. 3. procainamide. [This drug seems to be the main one that causes problems and more will be said about it.] Table 1.

TABLE 1

Group II

1. The Hydrazides:
   a. Hydralazine
   b. Isoniazid
2. Anticonvulsants
3. Procainamide

Drugs producing lupus by having peculiar pharmacologic properties.

Group II drugs are illustrated in Table 2. Griseofulvin, chlorpromazine, and tetracycline can be skin sensitizing drugs and I wondered if this was not the cause of drug-induced syndrome, but my dermatology friends say no. Methyldopa (Aldomet®), frequently used in the treatment of hypertension, can cause hemolytic anemia and, on occasion, a mild lupus syndrome, with high titers of ANA as well as LE cells. The lupus syndrome caused by oral contraceptives is thought to be due to the estrogen component. High doses of penicillin have been reported to do this. Phenylbutazone is mentioned. Oxyphenbutazone, an analog, was administered to our patient without benefit, and this reaction may be a reason why she did not respond to the drug as far as the musculoskeletal complaints were concerned. This type reaction with phenylbutazone must be quite rare as a cause of drug-induced lupus syndrome.

TABLE 2

Group II

Aminosalicylic acid
Chlorpromazine
Ethosuximide
Griseofulvin
Methyldopa
Oral Contraceptives
Penicillin
Phenylbutazone
Propylthiouracil
Quinidine
Reserpine
Sulfonamides
Tetracycline

Drugs that produce lupus by "allergic reactions".

Quinidine is also noted in Group II. I want to emphasize this because if an individual develops a lupus-like syndrome with procainamide and he needs the antiarrhythmic medication, physicians in the past have switched the individual to quinidine. There are several well documented cases now of quinidine-induced lupus.[3,4] As a matter of fact, we think we saw one here a few months ago—an individual from West Virginia, who developed idiopathic acute atrial fibrillation and was given procainamide which controlled the arrhythmia and the heart reverted to normal sinus rhythm, but he developed a lupus syndrome. Procainamide was discontinued and quinidine substituted, but he continued to get much, much worse. There are only a few cases in the literature, however. Recently at a regional meeting of the American Rheumatism Association in Williamsburg, there was a good report documenting two more cases of quinidine lupus.

Let's consider hydralazine again. Various studies have shown that between 8 and 13 per cent of patients receiving hydralazine will de-

velop lupus.[5] The seems like a very high figure. Usually it requires a high dose of hydralazine to do this, but there are reports documenting that as little as 75 mg a day will induce a lupus syndrome. In contrast to the other drugs which rarely cause renal disease, there are documented cases of hydralazine producing lupus nephritis. Perhaps this was not a strictly drug-induced lupus—the individual had lupus all along. This may be true—we'll discuss this in a minute. Pericarditis, however, is infrequently noted as part of the hydralazine-induced lupus. This is one strange thing about these drugs—some may be associated with mainly musculoskeletal symptoms—others with mainly a polyserositis—pericarditis and pleuritis. Pericarditis is reported in 2 per cent of hydralazine lupus cases in comparison with 30 to 45 per cent in the idiopathic form of systemic lupus erythematosus.

TABLE 3

SYSTEMIC LUPUS ERYTHEMATOSUS

	Idiopathic	*Procainamide*
Frequency of remission	38%	>75%
Female: male	7:1	2:1
Black: white	4:1	<1:1
Pulmonary parenchyma	8%	30%
Renal involvement	40±%	<10%
Antibody to native DNA	60%	<3%
Serum C'	Often↓	Normal

Returning to INH, an elevated antinuclear titer may develop in about 19 per cent of patients receiving this drug.[6] Now, 19 per cent certainly do not develop a lupus syndrome! I want to make that clear. I should add, however, that one investigator who was studying antinuclear antibody found that 67 per cent of patients on INH developed an antinuclear antibody.[5] There is a case reported of pericardial tamponade due to isoniazid-induced lupus syndrome.[7]

What about the anticonvulsants? In reviewing the data concerning the anti-convulsants there seems to be no doubt concerning the fact that a very small percentage of these patients will develop a lupus syndrome. Most of the cases recorded are in children. This issue is clouded since we know that idiopathic lupus involves the central nervous system and can cause seizures. Which came first in this particular instance, the chicken or the egg? Drug-induced lupus involvement of the central nervous system is considered quite rare. When you see lupus involving the central nervous system, you're more likely to be dealing with the true idiopathic form of LE.

Procainamide is probably the most potent of the lupus activating drugs. The initial report of this was in 1962 in the *New England Journal of Medicine* by Dr. Tony Ladd.[8] It was in a 49 year old male with rheumatic heart disease who had atrial fibrillation. There was a four month history of a pruritic rash, a three month history of arthralgias, and parathesias, and a one month history of fever, myalgia and pleurisy. The patient had been taking procainamide, between two and three grams daily, for six months. The antinuclear antibody test, using thymus cells, and LE preps were positive. The drug was discontinued and the signs and symptoms disappeared within nine weeks. Reinstitution of procainamide six months later precipitated the same illness. It should be pointed out, and I want to emphasize this, that serologic abnormalities without symptoms frequently develop with procainamide. In one study, 15 of 22 patients developed antinuclear antibodies after taking procainamide for six weeks. I think we ought to see the difference between the clinical courses of procainamide lupus and idiopathic lupus (Table 3). Dr. Ed Dubois at UCLA, who has written the textbook on lupus, recorded a 38 per cent remission rate of idiopathic systemic lupus erythematosus.[9] With procainamide it is reported in greater than 75 per cent. In idiopathic lupus the female to male ratio is 7:1 but with procainamide—only 2:1. Lupus in blacks, 4:1, but with procainamide it's really about 1:1. Why this difference? I don't know. Pulmonary parenchyma abnormalities are reported in about 8 per cent of idiopathic SLE. This is in contrast to 30 per cent with procainamide. Renal involvement is present in 40+ per cent of cases of SLE, but probably less than 1 per cent with procainamide. Dr. Mullinax is going to talk about laboratory studies, but note that

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Patient P.T.* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.

Patient P.T.* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

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Precautions: If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

Adverse Reactions: Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

Dosage and Administration: Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

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CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in tibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
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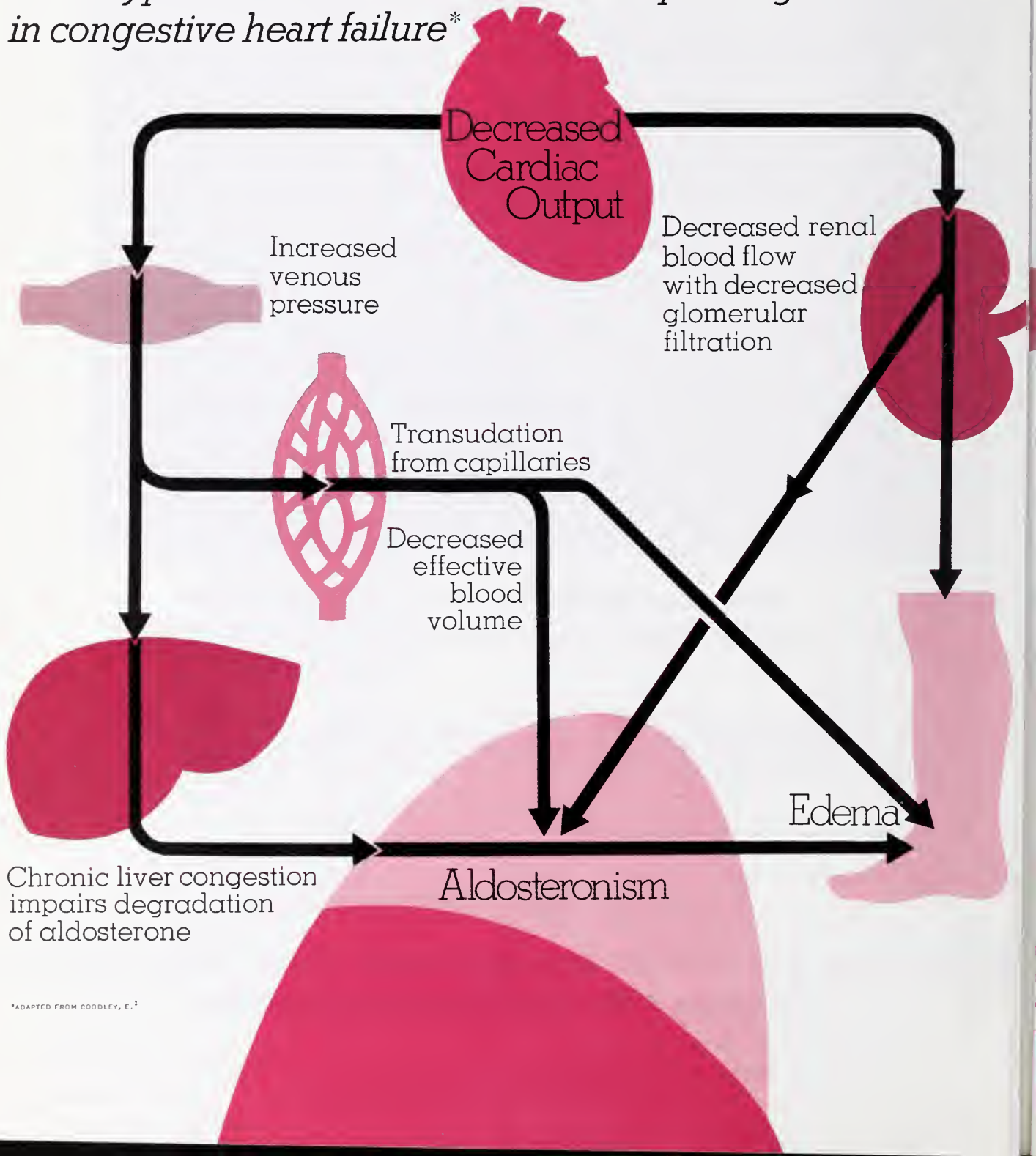

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3. As a daily diuretic in combination with a daily dose of a thiazide
- Permits daily additive diuretic effect while maintaining potassium balance.

Indications—Essential hypertension, edema or ascites of congestive heart failure, cirrhosis of the liver and the nephrotic syndrome; idiopathic edema. Some patients with malignant effusions may benefit from Aldactone (spironolactone), particularly when given with a thiazide diuretic.

Contraindications—Acute renal insufficiency, rapidly progressing impairment of renal function, anuria and hyperkalemia.

Warnings—Potassium supplementation may cause hyperkalemia and is not indicated unless a glucocorticoid is also given. Discontinue potassium supplementation if hyperkalemia develops. **Usage of any drug in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the mother and fetus.**

Precautions—Patients should be checked carefully since electrolyte imbalance may occur. Although usually insignificant, hyperkalemia may be serious when renal impairment exists; deaths have occurred. Hyponatremia, manifested by dryness of the mouth, thirst, lethargy and drowsiness, together with a low serum sodium may be caused or aggravated, especially when Aldactone is combined with other diuretics. Elevation of BUN may occur, especially when pretreatment hyperazotemia exists. Mild acidosis may occur. Reduce the dosage of other antihypertensive drugs, particularly the ganglionic blocking agents, by at least 50 percent when adding Aldactone since it may potentiate their action.

Adverse Reactions—Drowsiness, lethargy, headache, diarrhea and other gastrointestinal symptoms, maculopapular or erythematous cutaneous eruptions, urticaria, mental confusion, drug fever, ataxia, gynecomastia, inability to achieve or maintain erection, mild androgenic effects, including hirsutism, irregular menses and deepening voice. Adverse reactions are infrequent and usually reversible.

Dosage and Administration—For **essential hypertension** in **adults** the daily dosage is 50 to 100 mg. in divided doses. Aldactone may be combined with a thiazide diuretic if necessary. Continue treatment for two weeks or longer since an adequate response may not occur sooner. Adjust subsequent dosage according to response of patient.

For edema, ascites or **effusions** in **adults** initial daily dosage is 100 mg. in divided doses. Continue medication for at least five days to determine diuretic response; add a thiazide or organic mercurial if adequate diuretic response has not occurred. Aldactone dosage should not be changed when other therapy is added. A daily dosage of Aldactone considerably greater than 75 mg. may be given if necessary.

A glucocorticoid, such as 15 to 20 mg. of prednisone daily, may be desirable for patients with extremely resistant edema which does not respond adequately to Aldactone and a conventional diuretic. Observe the usual precautions applicable to glucocorticoid therapy; supplemental potassium will usually be necessary. Such patients frequently have an associated hyponatremia—restriction of fluid intake to 1 liter per day or administration of mannitol or urea may be necessary (these measures are contraindicated in patients with uremia or severely impaired renal function). Mannitol is contraindicated in patients with congestive heart failure, and urea is contraindicated with a history or signs of hepatic coma unless the patient is receiving antibiotics orally to "sterilize" the gastrointestinal tract.

Glucocorticoids should probably be given first to patients with nephrosis since Aldactone, although useful for diuresis, will not directly affect the basic pathologic process.

For **children** the daily dosage should provide 1.5 mg. of Aldactone per pound of body weight.

References: **1.** Coodley, E. Consultant 12:106-107, 109, 111, 113, 115 (July) 1972. **2.** Thorn, G. W., and Louler, D. P.: Am. J. Med. 53:673-684 (Nov.) 1972

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antibodies to native DNA are present in 60 per cent, or more, of idiopathic lupus but rarely seen in the procainamide type. Serum complement levels, that are frequently reduced in patients with idiopathic SLE, and especially those that have renal disease, are rarely abnormal in the procainamide type.

In a series of 177 women receiving chlorpromazine, 26 per cent were found to have antinuclear antibodies compared to only 2.5 per cent controls.[10] None of these women developed signs of symptoms of lupus, however. Dubois described a lupus syndrome due to chlorpromazine in a 38 year old man who had taken 400 milligrams of the drug daily for 17 months.[11] The patient's illness cleared within two weeks after discontinuing therapy and the serologic abnormalities regressed two months later. A subsequent challenge with the drug produced symptoms within 48 hours. This is an example of the clinical picture clearing much sooner than the laboratory abnormalities. Some of the laboratory abnormalities may persist for months and even a few years.

Let's get to the question, is drug induced lupus a separate disease from systemic lupus erythematosus or does the individual having the problem with drugs have a lupus diathesis? This is still not answered. There are two schools of thought. The lupus diathesis refers to a stage where the condition is silent or is manifested by biologic false positive tests for syphilis, serum protein abnormalities, the incidental findings of antinuclear antibodies, or recurrent phlebitis, hemolytic anemia or Raynaud's phenomenon. There are those who believe, however, that lupus results from an interplay of genetic and environmental factors. To produce overt disease, some type of environmental insult is needed. The insult could be drugs, for example. Support for this is given by Dr. Howard Holley, Birmingham, who studied the relatives of three children who developed anticonvulsant-activated lupus and found that 18 of 44 relatives studied had serologic abnormalities.[12] Pre-disposition studies at the Mayo Clinic comparing 50 patients with hydralazine-activated lupus with 100 patients with hypertension showed that 74 per cent of the hydralazine patients and 13 per cent of the controls presented data that might have indicated a lupus diathesis.[13,14]

A prospective study of the epidemiology of drug-induced lupus was done in New York City between the years 1957 and 1966.[15] An increased incidence of drug-induced lupus was noted, but it was thought to be partly related to greater awareness of this complication, and also to a more widespread use of procainamide. Their data did not show evidence of a predisposition but the results were inconclusive because of a small sample size.

This is where we stand right now—trying to clinically differentiate a true drug-induced lupus from a lupus diathesis type picture, and maybe we are going to have some laboratory studies that would help to decide the issue.

Dr. Franklin Mullinax: There are three things to know about drug-induced LE: the clinical findings, the laboratory manifestations and the theoretical significance, i.e., what does the drug-induced disease tell us about idiopathic SLE? Dr. Owen covered the clinical findings and laboratory manifestations. I reemphasize: (1) Clinically the drug-induced syndrome occurs in a different population of subjects, in short, those taking a potential inducing agent, particularly procainamide (Pronestyl®). (2) Renal and central nervous system involvement is rare. (3) Approximately 60 per cent of patients who receive procainamide have, on testing, serologic abnormalities, particularly positive tests for antinuclear factors (ANF).[16] A much smaller percentage of patients present the clinical picture of drug-induced LE.

The most striking laboratory finding is then the high incidence of positive ANF tests in patients receiving procainamide for at least two months. Positive LE cell tests occur in approximately half of these patients. Positive Coombs tests are much less common and overt hemolysis is rare.

Anti-nuclear factors which bind to DNA have excited most attention. However, just as in idiopathic SLE, so also in drug-induced LE, a variety of anti-nuclear as well as anti-cyto-

plasmic factors may be detected. Anti-nucleoprotein factors are responsible for both the "diffuse pattern" detected in the ANF test and for the positive LE cell test. The DNA-anti-DNA reaction has received special attention. The attention to anti-DNA-factors—I am still reluctant to call them anti-DNA antibodies—is aroused for four reasons. First, DNA is an attention-getting molecule. Histones, for example, don't seem to capture the clinical imagination. Second, one can envision a foreign DNA such as viral DNA being the immunizing antigen. I personally believe this view cannot adequately explain the large number of other "autoantibodies" which also occur. Third, DNA is readily available from your favorite biochemical supplier. Unfortunately, as shown recently in studies from the University of Virginia School of Medicine, commercially prepared DNA is generally non-homogeneous and is a mixture of "native double-stranded DNA" and "denatured single-stranded DNA". Fourth, in patients with idiopathic SLE there is an association between renal disease and presence of antibodies to native DNA. Indeed native DNA and anti-native DNA can be eluted from kidneys of patients dying with SLE nephritis. Antibodies which react with denatured DNA are apparently less toxic. Perhaps denatured (singled-stranded DNA) is not present in serum.

In common laboratory practice native DNA is considered to exist as undefiled Watson-Crick type double helix. If such native DNA is boiled there is disruption of hydrogen bonds between opposing strands and the double helix more or less falls apart. If the DNA is then rapidly cooled much of the DNA remains apparently single-stranded. These two types of DNA can be used to study serologic reactions. Patients with drug-induced LE do not have antibodies to native DNA whereas patients with SLE, particularly those with active renal disease, frequently do. Perhaps these facts explain the absence of renal disease in drug-LE.

Apart from the obviously clinically important features of drug-induced LE what is the academic take-home lesson? I wish I knew. A defined chemical compound, e.g., procainamide or hydralazine, given at a definite time induces in some subjects a disease very similar to idiopathic SLE. Many of us have tried to deduce from the structure of inducing drugs a clue concerning the pathogenesis of either the drug-induced or natural disease.[17] A few ill-starred animal experiments have been performed. Rather than cataloguing these intellectual and experimental frustrations, I shall simply say that very little is noteworthy. Apparently nobody has a good idea. So there are no good experiments.

A first question might be: Do patients receiving potential inducing agents react immunologically to the drug and if so does the type or degree of reaction differ in patients who do develop the LE syndrome or serologic abnormalities? There are essentially no data indicating formation of anti-procainamide antibodies. With hydralazine results are more promising. Studies of patients receiving hydralazine, especially those with the clinical hydralazine induced lupus syndrome, reveal evidence of both humoral and cellular immunity to the drug. The humoral response is shown in a variety of ways, one of which is the agglutination of hydralazine-coated red blood cells by serum antibodies. Cellular immunity to hydralazine is indicated by studies with lymphocyte cultures. Proliferating cells incorporate ^{3}H-thymidine into their cellular DNA. A selective burst of thymidine incorporation is induced by adding hydralazine to lymphocyte cultures taken from patients with hydralazine induced lupus. In general then, patients receiving hydralazine may have both humoral and cellular immune responses to the drug. These reactions are especially pronounced in patients with the drug-induced disease.

Although these studies are interesting the central question remains unanswered. How do the drugs induce LE?

Dr. Owen: Others in the audience will, I hope, discuss their ideas about drug-induced LE. I will summarize and I will make the statement that drug-induced lupus, in most

cases, is a different entity from idiopathic systemic lupus erythematosus. The prognosis is usually quite good in the drug-induced cases; however, clinical and laboratory abnormalities may persist anywhere from weeks to months; on rare occasions, a few years. Renal disease is notably absent. Also serum complement should be normal. The question frequently arises in patients with idiopathic lupus as to whether one of the drugs known to produce a lupus syndrome should be instituted. For example, in a lupus patient with hypertension who is not responding to thiazides, we think methyldopa is an excellent drug. Is it contraindicated? The answer most probably is no! That is, the drug is not contraindicated. You can go on and use it. We have used it and there are patients being followed all over the United States, by very good rheumatic disease centers, that agree with this. I mentioned the southeastern regional meeting of the American Rheumatism Association in Williamsburg in December. There was a panel discussion by Dr. Lawrence Shulman from Baltimore and Dr. John Decker from the National Institutes of Health. They brought this particular subject up and polled the individuals in the audience—would you hesitate to institute one of these drugs in a patient with systemic lupus erythematosus? There were very few who said that they would hesitate. They would certainly keep in mind the possible hazards. It is most unusual to see increased problems in a patient with idiopathic SLE when you institute one of these drugs as long as you are giving them appropriate therapy for the disease itself—adrenocorticosteroids, immunosuppressive or cytotoxic agents.

We will open the floor for questions, comments and discussion.

Dr. Winston Bloch: Should the test for single and double stranded DNA be performed on the serum of a patient that you think may have a drug-induced lupus?

Dr. Mullinax: These are sophisticated tests, and not readily available. It is apparently true that only in active idiopathic SLE, and not drug-induced disease, are the abnormal titers of anti-double stranded DNA present. The important thing is to keep in mind the clinical characteristics of drug-induced LE. The diagnosis is clear in a great majority of people.

Dr. Albert Wasserman: Dr. Page Mauck makes the point that the clinical syndrome virtually never occurs on first administration of procainamide within a short period of days to a few weeks, so this concern for lupus induction which occurs in some series of up to 50 per cent of patients is not a concern for acute care. It is indeed a concern for chronic prolonged administration. I would point out that the 50 per cent incidence would make the lupus diathesis seem ridiculous as an explanation for the induction of lupus unless we are all exposed to something.

Dr. Mullinax: I can't see that it makes it ridiculous because we don't have a framework in which we know what we are talking about. Everybody might have the "diathesis".

Dr. Wasserman: Fifty per cent of people have this diathesis?

Dr. Mullinax: It's conceivable that everybody has this diathesis. In the same sense that perhaps everybody is susceptible to tuberculosis, but few catch the disease.

Dr. Wasserman: In that sense, fine.

Dr. John Farrar: Number one, what evidence do we have that all of these drugs are in fact real etiologic agents? There are so many that one wonders if there may be some that in fact are non-etiologic agents. Number two, is there any evidence that these various agents have any familial or regional clumping suggesting that they may occur more in the west or the south or wherever?

Dr. Owen: As far as evidence that drugs may cause the disease, I think with the major ones like procainamide and hydralazine there seems to be no doubt. Now obviously when you talk about the thousands of individuals that have received INH, the incidence of developing true SLE picture is quite rare, and certainly with the tons of tetracycline that are given, I'm sure that it must be quite rare. Whether tetracycline had anything to do with

it, I am not sure. I would like for Dr. Brady to make a comment about tetracycline, griseofulvin, and chlorpromazine in a moment.

What about families and locations, Dr. Mullinax?

Dr. Mullinax: Hydralazine disease does seem to affect a particular group of patients. First, it picks out people who are in families that have rheumatic diseases. That seems fairly clear. Procainamide does not seem to do that. It is conceivable that procainamide induces LE in a relatively large group of patients only a few of whom would naturally express SLE whereas the hydralazine syndrome, which is much less common, affects only the more susceptible group. One further point about hydralazine syndrome: it occurs in those who are slow acetylators of the drug. They detoxify or metabolize the drug slowly. Thus, they have higher blood levels. That in part explains the occurrence of hydralazine syndrome. It occurs exclusively in that 50 per cent of the population that are slow acetylators of the drug.

Dr. Richard Duma: Has there been any evidence that since INH has been used that the lupus syndrome has increased, for example over the past five to 10 years? With INH, we have noted that hepatitis has become more of a problem over the past five to 10 years than before, and it has been attributed to possibly a new product or a new manufacturer that has been making the particular product. Dr. Brummer may have some comments on that. The other thing, did I miss it or did you say that specificity in terms of both group I and group II—if you were to react to one drug say penicillin are you more likely or will you react for example, to quinidine or something of that sort in terms of the allergic group II? How about group I? Is there cross reactivity or is it very specific?

Dr. Owen: There seems to be no cross over between group I and group II. I do not know of any data that would support the idea that if you showed a reaction with quinidine that you would with griseofulvin. Dr. Brady, if you do have a reaction to griseofulvin, would that make you more likely to have a reaction to penicillin?

Dr. John Brady: I don't think so. The thing that is interesting to me about drug-induced LE is that I have had an opportunity to read a paper by Dr. Robert Schwartz. It was in the *American Journal of Pathology*, December, 1972, and it deals with a canine model for systemic LE. They found a dog that had systemic lupus erythematosus and they were able to pass this on to puppies by taking homogenized fractions of peripheral blood cells and passing them to the puppies. Again they could take a Millipore filtrate of these cells and innoculate it into a species of mice or guinea pigs, and produce a lymphoma-leukemia-like picture in a high percentage of mice, and then sacrifice these animals and then make another homogenate, and put it back into puppies and produce SLE. So they hypothesize that this is an animal model where a virus is involved. The virus acts at a genetic level and is the nucleus of immunoreactive cells. As you know, currently, immunologists feel that we are all exposed to various antigentic sites including native DNA. But during this tolerance induction phase in the embryo we develop a regulatory gene that prevents the gene that would make antibody against DNA from ever becoming active, and they are hypothesizing that under certain circumstances, with exposure to the right drug or to appropriate virus, you can suppress this regulatory mechanism, and the patient will start making antibodies against DNA. It is an interesting theory and that's all I would have to add to the discussion.

Dr. Owen: I was quite interested in the comment about lymphomas. Some individuals have found an increase in lymphomas in idiopathic SLE, and some of the drugs, for example, diphenylhydantoin, may produce a pseudolymphoma-type picture. I would like for Dr. Brummer to make a comment on his experience with INH.

Dr. Donald Brummer: I have never seen in the course of treating patients with tuberculosis in Sanatoria the drug-induced lupus syndrome. It has, to my knowledge, been re-

ported only rarely in people like this patient you are presenting today, who is taking isoniazid alone. It may be that our population sample was just too small. The Public Health Service in this country is now treating millions of people with isoniazid, and I think that we may just be selecting out a small group. There are all kinds of hints, including the kind of mechanisms that Dr. Brady mentioned, that we may be activating a virus or activating an inactive gene. One of the problems with talking about what isoniazid does, when it causes problems, is that we do not know what isoniazid does when it does not cause problems. We have no idea how it acts normally. We just have very rough measurements of what happens to it. I think if we knew more about how it acts normally, we would have a handle to work with. In reference to the hope that we would find something had happened to the isoniazid in the past few years in the manufacturing process, and therefore we could fix it, this hope has proven not to be true. The isoniazid being made now is the same as it always has been. We are just selecting out a group of people who react to isoniazid for reasons unknown.

Dr. Owen: In the hepatitis problems you get on rare occasion with isoniazid, have LE cells been reported? I am just thinking about the possibility of lupoid hepatitis.

Dr. Brummer: Not to my knowledge.

Dr. Duma: Well, I was going to say that the type of reaction that occurs has been described as something similar to hypersensitivity-like syndrome. It has a peculiar incubation period of from one to three months before hepatitis will appear, and it often is associated with some eosinophilia in the liver.

Dr. Owen: Dr. Moncure, we noted our patient had some peripheral staining fluorescence, and when we see peripheral staining, we usually think of an active type of lupus process. Can you correlate this with single or double stranded DNA or do we think this patient had a lupus diathesis, or do we know enough about fluorescence in antinuclear antibody to make a statement like that?

Dr. Charles Moncure: Well it's true that when we see a peripheral pattern, we usually consider this more likely associated with an active lupus process, and many patients with peripheral antinuclear patterns have been shown to have anti-DNA. But this is a sort of statistical correlation, and I don't think it's fair to work it back the other way and say that because a patient has a peripheral antinuclear antibody he must have anti-native DNA, as opposed to some other form of nuclear antigen. I do think that it would be considered unusual with drug induced lupus, but I don't have statistics on that.

Dr. Owen: Thank you very much. I would like to ask Dr. Millie Tung and Dr. Ronald Kroll if they have any hesitation about instituting methyldopa or reserpine in lupus nephritis cases. Answer: "No hesitation at all." Dr. Kroll says it would just about knock out the usual antihypertensive medications and would leave only guanethidine. Thank you.

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MEDICARE—PART B—Medicare Hearing Process

(*Continued from page* 319)

or when he believes that the Request For Payment is not being acted upon with reasonable promptness. A physician or other person who furnishes items or services to a person enrolled in the supplementary medical insurance plan and who accepts an assignment from the enrollee has the same right as the enrollee to appeal the carrier's determination. Making these procedures available is a primary responsibility of the Medicare Carrier.

The Medicare beneficiary or his representative, or a physician or supplier who has accepted the assignment of Medicare benefits and who is dissatisfied with the results of the "informal review", is entitled to request a "Fair Hearing". Such request should be made within six months of the date that the informal review notice was mailed.

In accord with procedures, adequate notice of the Fair Hearing is sent to the requestor and the matter is transferred to the jurisdiction of the "Hearing Officer". The Hearing Officer occupies a significant position in the administrative appeals right afforded dissatisfied individuals. The Hearing Officer acts as both judge and jury. He may, from time to time, also find himself acting as counsel for unrepresented parties and it is his responsibility to obtain all the facts and to apply the appropriate law, regulations, policy, and guides and reasonings therefore fairly and judiciously. The Hearing Officer is responsible for rendering an independent written decision in all cases, and such decisions must be supported by findings of fact based upon the evidence adduced at the hearing. It is not within a Hearing Officer's province to pass upon the legality, constitutional or otherwise, of any provisions of the Act, regulations or policies and procedures written thereunder by the Social Security Administration or the Railroad Retirement Board.

The Hearing Officer's decision is final and binding upon all parties to the hearing. The law does not provide for an appeal to the Social Security Administration from the Hearing Officer's decision or for judicial review by State or Federal Courts of the decision.

Public Health ....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

A Summary of Health in Virginia During the Year 1973

Despite a continuing downward trend in Virginia's birth rate, the State's total estimated population is increasing steadily due to immigration of new residents. The preliminary population estimation for Virginia is 4,811,000.

Approximately 30,150 new residents were gained during the past year through natural increase, there being 71,400 births and 41,250 deaths recorded for 1973. (Estimate based on November data). Preliminary estimates of the number of persons who moved to Virginia from other states during the past year indicate an additional population growth of at least 16,850 due to immigration. Virginia's population increase has been nearly 1.6 percent annually in recent years.

Births in Virginia are declining at a faster pace than for the nation as a whole. For the year 1972, the Statewide birth rate was 15.8 per 1,000 population while the United States birth rate was 15.6. As estimated for 1973, Virginia's birth rate has dropped to 14.8, the lowest ever recorded in this State. The estimated U.S. rate for 1973 is 15.0.

Estimated illegitimate births for 1973 numbered 9,462, 344 less than those reported last year. The total of 9,806 illegitimate births reported for 1972 showed a decrease for the second consecutive year from Virginia's all-time high of 10,263 illegitimate births reported in 1970.

Virginia's estimated death rate for 1973 is 8.6 per 1,000 population. There has been little variation in this rate for the past 25 years. As of 1973, the national death rate was 9.4.

Only nine maternal deaths were reported in Virginia in 1973 resulting in a rate of 1.3 per 10,000 live births. There were 14 maternal deaths in 1972 for a rate of 1.9. The national maternal death rate in 1972 was 2.4. This projected number for Virginia is one less than the previous record set in 1971 and the rate will be second only to the 1971 rate.

There were 1,324 infant deaths estimated for Virginia during 1973, 200 less than those recorded in the previous year. The State's infant death rate was 18.5 per 1,000 live births, down from the 20.3 infant death rate in 1972. Nationally the infant death rate is 17.7. Infant deaths in 1973 reached an all-time low for Virginia in both number and rate.

The total number of marriages in Virginia during 1972 was 55,863 for a rate of 11.7 per 1,000 population. The projection for 1973 was 59,034 with a rate of 12.3.

The divorce rate continued its steady climb that began in 1958. For 1973 there were 16,-182 divorces in Virginia compared to 14,155 for 1972. The divorce number and rate of 3.4 per 1,000 population were a record high.

Therapeutic Abortions

The volume of therapeutic abortions reported in Virginia continues to increase. In 1972, there were 4,496 abortions reported, averaging 375 per month. During 1973 reported abortions averaged 592 per month. The projected 7,100 abortions for 1973 was up from last year by 57.9 percent.

Leading Causes of Death

Predominant causes of death in Virginia and the nation have remained the same for many years—heart disease, cancer and stroke. Of the 41,250 estimated Virginia deaths in 1973, heart disease was involved in 14,937 cases. Cancer accounted for 7,329 deaths during the same year and 4,385 persons died following strokes.

Accidents, the fourth leading cause of death in Virginia took 2,738 lives during 1973. Of this number 1,258 deaths were due to motor vehicle accidents. The rate of motor vehicle deaths in Virginia is 18.1 percent greater than that of a decade ago. The State's 1972 motor vehicle death rate was 25.8 per 100,000 population, less than the national rate of 27.2. The 1973 projected motor vehicle death rate is 26.1 per 100,000 population.

Daily Vital Events

During 1973, vital events each day in Virginia averaged 162 marriages; 44 divorces; 196 births of which 26 were illegitimate; 113 deaths from all causes including 41 due to heart disease, 20 due to cancer, 12 due to stroke and 8 due to accidents.

Communicable Diseases

Gonorrhea is still plaguing Virginia as the State's most prevalent communicable disease next to flu and other common respiratory illnesses. Reported cases for 1973 exceeded the 20,000 mark, nearly four thousand more than those recorded in 1972. Part of the increased number of known cases is very likely due to the State's expanded venereal disease control program in the areas of patient interviews, examination and treatment of contacts, educational resource materials furnished to teachers of school health classes, and gonorrhea tests for women. More than five percent of all women tested in 1973 have been found positive for gonorrhea infection.

In comparison with the rest of the nation, Virginia was sixteenth among the states in gonorrhea case rates during 1973. There were 20,065 cases reported for the last calendar year, giving Virginia a rate of 421.2 gonorrhea patients per 100,000 population. The actual incidence of the disease is estimated to be four or five times greater since not all treated cases are reported to health authorities, and females who contract gonorrhea are usually unaware that they have been infected.

"Flu season" in Virginia usually occurs from the first of December through April of the following year. During the 1972-73 flu season, Virginians were widely affected by a new type A influenza virus the "England" strain. It became more popularly known as "London Flu". Over 16,000 cases of influenza were reported to local health departments. The actual number of flu patients, including those who did not see doctors, was several times the known incidence.

For the month of January 1973, more than 5,397 influenza cases have been reported. During January 1972, a month that marked the beginning of a heavy flu season, less than 2,500 cases were reported in Virginia.

Other communicable disease cases reported around the State this year are: mumps, 799; infectious mononucleosis, 937; infectious hepatitis, 632; rubella (German measles), 547; rubeola (red measles), 428; tuberculosis (newly detected), 827; shigellosis, 119; salmonellosis, 1009; and serum hepatitis, 104.

At least seven humans were known to be bitten or scratched by bats in 1973; it was necessary to administer anti-rabies treatments to all seven of the human bat-bite sufferers. Ten other persons in Virginia also underwent anti-rabies treatment after being bitten by one skunk, five foxes, a cat and a dog.

Health Care Facilities in Virginia

Facilities licensed to provide health care in Virginia are: 109 general hospitals which have a total in-patient capacity of 19,298; 13 special in-patient care facilities with a total bed capacity of 1,269; 14 psychiatric hospitals with an in-patient capacity of 11,603; and 149 nursing homes with a total bed capacity of 10,631.

Two group care homes for the physically and mentally handicapped have a total bed capacity of 11. In addition, there are 11 resident institutions with bed capacity of 266. Homes for the aged with a 7,328 bed capacity number 306.

Home Health Agencies

There are 140 certified Home Health Agencies in Virginia which provide health services to patients at home under the direction of a

physician. During the fiscal year ending June 30, 1973, these agencies made a total of 63,547 visits to provide home care for 2,819 persons covered by Medicare. An additional 70,196 visits were made to provide health services for 2,985 patients not eligible for Medicare benefits.

Emergency Medical Services

Approximately 3,500 of the 11,250 individuals (representing the volunteer, fire, funeral, governmental and commercial EMS agencies) associated with Virginia's Emergency Medical Services program are now qualified as Emergency Medical Technicians-Ambulance through successful completion of the 81-hour "Emergency Care and Transportation of the Sick and Injured" training course. As of this year, 24 EMT's have been certified as Cardiac-Emergency Medical Technicians after completing an additional 100 hours of training entitled "Pre-Hospital Emergency Cardiac Care Program". The Office of Emergency Medical Services, through a grant from the Virginia Regional Medical Program, has initiated a "Lay Instructor Institute Program" whereby selected EMT's are certified to instruct the 81-hour course in areas where physicians are not available. Virginia's Community Colleges are providing the faculty for this specific training.

Medicare Certifications

Currently, there are 102 hospitals in Virginia certified to accept persons covered by Medicare for in-patient hospital services. The total of hospital beds certified for Medicare patients is 19,056.

Twenty-three other inpatient care facilities of a specialized nature are certified to accept a total of 4,730 patients.

There are 42 skilled nursing homes in the State which have a total of 1,602 beds certified for Medicare patients.

Of the 36 licensed clinical laboratories in Virginia, 28 are certified to provide services for patients entitled to Medicare benefits.

Medicaid Screening

In 1972, screening examinations were performed in 111 Medicaid screening clinics as compared with 95 in 1971. Two of the 95 clinics did not screen children in 1972 and are not included in the 111. A total of 16,752 children were seen, representing 11.1 percent of the number of eligibles on July 1, 1972.

VIRGINIA 1973 VITAL STATISTICS ESTIMATES

	1973 (Estimates) Number	Rate	1973 (Final) Number	Rate	(% change in numbers) 1973 over 1972
1. MAJOR RESIDENT VITAL EVENTS IN VIRGINIA					
Births	71,400	14.8	75,068	15.8	— 4.9
Deaths	41,250	8.6	40,886	8.6	+ 0.9
Marriages	59,034	12.3	55,863	11.7	+ 5.7
Divorces	16,182	3.4	14,155	3.0	+14.3
Infant Deaths	1,324	18.5	1,524	20.3	—13.1
Fetal Deaths	12,650	177.2	10,479	139.6	+20.7
Therapeutic Abortions	7,100	99.4	4,496	59.9	+57.9
Illegitimate Births	9,462	13.3	9,806	13.1	— 3.5
Maternal Deaths	9	1.3	14	1.9	

Birth, death, marriage and divorce rates per 1,000 population
Infant, fetal death and therapeutic abortion rates per 1,000 live births
Illegitimate rates per 100 live births
Maternal death rate per 10,000 births

2. LEADING CAUSES OF DEATH (Residents Only)

Total	41,250		40,886		
Heart Disease	14,937	310.5	14,751	309.6	+ 1.3
Cancer	7,329	152.3	7,158	150.3	+ 2.4
Cerebrovascular Disease	4,385	91.1	4,466	93.7	— 1.8
Accidents	2,738	56.9	2,692	56.5	+ 1.7
Influenza and Pneumonia	1,506	31.3	1,516	31.8	— 0.7
Diseases of Early Infancy	777	16.2	873	18.3	—11.0
Diabetes	734	15.3	712	14.9	+ 3.1
Suicides	689	14.3	697	14.6	— 1.1
Cirrhosis of Liver	731	15.2	666	14.0	+ 9.8
Arteriosclerosis	733	15.2	630	13.2	+16.3
All Other Causes	6,691	139.1	6,725	141.2	— 0.5

All rates per 100,000 population

3. ACCIDENTAL DEATHS OCCURRING IN VIRGINIA

Total	2,775	57.7	2,779	58.3	
Motor Vehicle	1,278	26.6	1,296	27.2	— 1.4
Public	710	14.8	632	13.3	+12.3
Home	630	13.1	678	14.2	— 7.1
Occupational	137	2.8	154	3.2	—11.0
Unknown and Late Effects	20	0.4	19	0.4	— 5.3

All rates per 100,000 population

IMPORTANT: In most cases the above figures represent events occurring to Virginia Residents. Marriage and divorce figures are occurrence events regardless of the place of residence claimed by participants. The accidental deaths figures shown in section 3 also refer to persons who died in Virginia without regard to their places of residence.

Wine and Beer Benefit Elderly Patients

Wine and beer in moderation is good for the physical and emotional ills of elderly patients, says an editorial in the November 12 issue of the *Journal of the American Medical Association.*

Thomas B. Turner, M.D., of The Johns Hopkins University School of Medicine, Baltimore, cites in the editorial a number of studies showing beneficial effects of a bottle of beer or a glass of wine among patients in nursing home situations.

The therapeutic effect of mild alcoholic drinks is considerably enhanced if the beverages are given in a pleasant group situation, Dr. Turner says. In one study the patients had their drinks in a room equipped like a pub, where they could visit and chat while imbibing.

A group of 34 senile men in one situation were given a bottle of beer daily. After two months the whole atmosphere of the ward had changed. The number of incontinent men dropped from 26 to 9; jacket restraint required in 26 before the new regimen was required in only four afterward; the number of ambulatory patients rose from 7 to 25.

Medicare—Part B . . . .

Medicare Hearing Process

CURTIS J. KELLY, J.D.

Initial Determination

Under the regulations an "initial" determination is subject to informal review by the carrier. An informal review determination is subject to hearing by a Hearing Officer upon request therefore by an appropriate party. Since a hearing right extends from an initial determination and an informal review thereof, a clear understanding of what constitutes an "initial" determination is important.

An initial determination is any determination as to whether items and services furnished are covered; whether the deductible has been met; whether the received bills or other evidence of payment are acceptable; and whether the charges for items or services are reasonable. An initial determination by a carrier does not include a determination of any issue or factor for which the Social Security Administration, the Railroad Retirement Board, or other organizations has sole responsibilities (for example, whether or not an individual is entitled to coverage under the supplementary medical insurance plan; whether an independent laboratory meets all the conditions for coverage for services; etc.) or which relates to hospital insurance benefits under Part A of Title 18 of this Act. Written notice of an initial determination is final and binding on the parties to such determination unless it is reviewed in accordance with stated procedures.

Informal Review

An informal review determination is a prerequisite to a Fair Hearing. The informal review procedure is a less costly and more expeditious device for handling complaints than a formal hearing. It is purely a carrier function whereby an individual, other than the one who made or participated in making the initial determination, performs the review since the purpose of the informal review is to provide a new, independent and critical analysis of the claim. The review covers not only the point at issue, but the entire claim, since all aspects of a disrupted claim are subject to review and/or revision.

The claimant is provided with an opportunity to submit any written relevant material evidence. If necessary, additional evidence is requested from the claimant and/or physician, provider, or any other supplier of service. Written notice of the informal review determination is sent to the parties. The informal review determination is final and binding upon all parties unless a hearing determination is rendered pursuant to a request made in accord with specific regulations.

The beneficiary, or his representative; the physician or supplier who has accepted the assignment of Medicare benefits, may within six months of the issuance of the Explanation of Medicare Benefits form, request in writing an informal review of the Medicare claim. Such request, timely made, is a matter of right and claims will be reviewed in accord with established procedures.

Fair Hearing

Section 1842 (b) (3) (C) of Title 18 of the Social Security Act provides that a Medicare Carrier is to establish and maintain procedures under which an individual enrolled in the supplementary medical insurance plan is provided with the opportunity for a hearing by the carrier when he is dissatisfied with the carrier's determination denying a request for payment, or with the amount of payment under the supplementary medical insurance plan

(*Continued on page* 314)

Woman's Auxiliary . . . .

Health Education

This year the emphasis of Health Education is on four areas:

I. MENTAL HEALTH

Concern for prevention of mental illness in children—emotionally or mentally ill, retarded, and reading and learning disabilities. Adults—who need mental health education programs on how to be compatible marriage partners, competent parents, productive citizens. The aging—who need understanding and special programs for their particular needs. Also stresses drug and alcohol abuse programs.

Auxiliary members over the State are involved with programs for the retarded by donating their time and money. *Films and lectures* are made available to schools and civic organizations. *Christmas stockings* were filled for patients in *Mental Hospitals*. The *Richmond Area Psychiatric Clinic* was the recipient of part of the funds from the annual antique show. Richmond also contributed funds to the *Adult Development Center*. *Hospitality House* (Newport News) is a half-way house for patients leaving Eastern State Hospital and helps them bridge the gap in returning to the community. The Auxiliary donated $250.00 for kitchen items. Some of the Southwestern Auxiliary members work with *Help Center*. This is a listening and referral service for persons in crisis and emotional stress. Southside Auxiliary helps with an *Occupational Therapy Garden Program* with a local garden club at Central State Hospital. Harrisonburg contributed a large sum from their Christmas Bazaar to the local *Mental Health Association*, instruction and learning aids for *deaf children*, *handicapped and mentally retarded Girl Scouts* for uniforms and dues, Co-Hope, a local foundation for physically handicapped children unable to attend public school, *Sheltering Arms*, *Leigh Hodges Fund* for doctors who are unable to practice due to misfortune. Arlington County held its second Worry In in March, donated funds to: *Prelude*, a drug rehabilitation center, *First Step*, a residential program for *disturbed boys and girls* who cannot cope with family in their own homes. There are two First Step Houses—the first for boys and the second recently opened for girls. A member is taking a course in the Kingsbury Center in Washington to learn to work with children with learning disabilities.

As a result of continued interest in depression in women, I coordinated a non-credit course for the University of Virginia, Northern Center, on *Toward Understanding Depression*.

As a member of the Northern Virginia Mental Health Association, I coordinated a program for *Parent-Teen Relationships*. Copies of both programs are available to anyone for a postage fee only. The Parent-Teen program is available for Cable TV.

Two members are on the Board of Directors of the Virginia Mental Health Association. The Homemaker's Club (V.P.I. sponsored) wants assistance in a program for their members and a library wants assistance in planning similar programs for women.

II. AGING AND HOMEBOUND

Homemaker services, meals services, congregate feeding, volunteer friendly visitor training, extended care facilities, telecare and transportation; promote awareness of facts on benefits provided by government health programs.

Many members are actively involved with *Meals on Wheels* programs in their communities. Involvement in community *Senior Citizens Centers* includes providing transportation, parties and being involved in local governments to improve conditions for aged.

Southwestern is collecting frames and lens cases for "*Eyes for the Needy*".

III. NUTRITION

Educational programs on proper diet—for people of every walk of life and every age group, particularly the aging.

Films, pamphlets and other printed materials are distributed to school children. Two hundred copies of "*What is Happening to the American Diet*", a state program on nutrition, have been purchased and distributed to junior and senior high schools in Arlington County.

IV. ECOLOGY

Concern for water pollution control, cleaner air, noise control, better solid waste management, conservation of natural areas, wild life preservation, population control, new forms of transportation, pesticide control, sound resource management, responsible planning and zoning, for growth that is compatible with nature.

Portsmouth members are active in ECOS (recycling glass, aluminum and newspapers) work for cleaner cities and country—also garden club members are active with *Hands* program.

Southwestern worked with other women's clubs and donated money from a *paper drive* to the *New River Valley Children's Home* for retarded children. A Lynchburg member is chairman of the Commission on "*Keep Lynchburg Beautiful*".

Speakers on ecology have been active at Auxiliary meetings.

V. GENERAL INFORMATION

The Cancer Society involves many Auxiliary members in the Uterine Crusade "*Let No Woman Be Overlooked*". Showing the Lucille Ball film is a good program for community groups. Some members are working for the *Reach for Recovery* program.

Many members are involved with other community groups. Roanoke had a successful course for training baby sitters. Arlington is cooperating with the *Library* to have their second training program for baby sitters. They voted funds to print a booklet (purse size) to be distributed through the Library. Arlington Hospital requested the *Talking Books* program for patients during dialysis. Richmond donated a *dialysis machine* for a patient's use in his home, also supplying maintenance funds and drugs for the patient. Harrisonburg donated funds for a *halter pump in the Pediatric Department of the Memorial Hospital* for babies needing intravenous feedings. Arlington donated a *film projector* for in-service training at the hospital. Fairfax is having a large safety program at Tyson's Corners. They have involved other community groups such as Fire, Police and Rescue Squads. The Y.W.C.A. is giving a *karate exhibit* on safety in women. They distributed *bicycle safety laws* to all Cub Scouts in Fairfax County.

Participation in *Pre-School Clinics* and *Health Fairs* has become popular and also involves working with others.

Health Care is a responsibility of the total community. Certainly we are assets to our husband's image in the community.

MRS. CHARLES G. SMITH
Chairman, Health Education

Safety

In 1973 traffic deaths (36) equalled the number of home accident fatalities (36) in the Roanoke Valley. I thought this reflected a nice decrease in traffic deaths in our area. Quite the contrary according to the director of the Roanoke Valley Safety Council. Traffic deaths were up in 1973. In previous years the number of home accident fatalities has always been higher than the number of traffic deaths, and the number of injured treated at area hospitals has been approximately twice as many for home injuries as traffic accidents. Automobile accidents just get more publicity. Burns, poisonings, lacerations, and falls are the most common offenders in home accidents with an increasing number of injuries from falls being reported in the twenty-five-to-fifty age group. Could it be possible that our highways are safer than our homes?

We are fortunate to have an active Safety Council in the Roanoke Valley. It is an independent organization, supported through the United Fund, working in all areas of safety—home, urban, bicycle, automobile, recreational, industrial—and working with any group who desires their participation. To my knowledge, Richmond is the only other area in the State

with a similar organization. Where no such organization exists, there may be special needs for home and bicycle safety programs. The elementary child needs bicycle safety education as surely as the teen-ager needs drivers' training courses in high school. Is bicycle safety education being adequately provided in your Community?

Roanoke Valley has had only one bicycle accident fatality in the 1970's, a head-on collision with a motorcycle in 1972. There have been some injuries. It is a good record for an area of our size. The Safety Council provides bicycle safety programs for all elementary school children in the area—slide and film programs, speakers, posters and pamphlets, and identification programs to teach young riders ways to make themselves and their bicycles more visible in traffic and at night. The Roanoke medical auxiliary will include bicycle safety tips in their bulletin board health education program rotating through the area elementary schools. Despite good educational programs, injuries will occur, but the child who is knowledgeable in bicycle safety and is proficient in handling his bike stands a much better chance for survival in a world of cars.

Bicycle riding is sharply on the increase—for enjoyment and by necessity. Bicycle routes are needed through conjested traffic areas and along highways as well as in recreational areas. These will benefit both motorist and cyclist. We must urge that funds be allocated for such routes as soon as available and that state representatives and city planning officials take the bike rider seriously.

Mrs. William Gordge
Health Services Chairman

Energy Crisis Highlighted in Legislature

On Wednesday, February 13, 1974, Senator Joe A. Canada, Jr., Virginia Beach, introduced a resolution regarding the severe gasoline shortage in the Tidewater area of Virginia, just as the women of the Medical Auxiliary sat down to observe the Senate in session. This resolution was so appropriate for we felt great sympathy toward the situation since we lost, through cancellation, ten reservations from women in the Northern and Tidewater areas of Virginia for "Our Day In The Legislature" because of the gasoline shortage. From this point on, the entire Legislature within three days gave the Governor of Virginia power to issue executive orders regarding our energy crisis. And . . . . . we were there from the beginning!

Mr. Willard Osburn, Administrative Assistant for The Medical Society of Virginia, introduced Mr. William Miller, counsel to The Medical Society of Virginia, to review some of the major issues presently before the Legislature regarding health and medical care issues. He stated that approximately one hundred bills were being carefully scrutinized by the Society during this session. Among those mentioned were acupuncture, abortion, terminology regarding psychologists, and continuing education for physicians.

The women were fortunate to meet the only physician now in the Legislature—John C. Buchanan, M.D., Wise—who spoke to them regarding the importance of being aware of issues early, and then to let their thoughts be known by a handwritten letter to their representative. In addition, he was very sympathetic to medicine's problems and urged the women to write to him also.

A short tour of the Capitol re-emphasized the importance of the Houdon statue of George Washington and of the classic beauty of our State Capitol.

Auxiliary women were also made cognizant of the fact that a physician's wife from Lynchburg—Joan S. Jones—was a member of the House of Delegates and was earnestly listening to physicians' ideas and thoughts.

It is hoped that the thirty-eight women in attendance left Richmond's State Capitol feeling more committed to becoming involved in legislative days in January, February and March of each calendar year.

Gail F. Neal
Legislative Chairman

Editorial . . . .

Common Sense

SOME OF US who are nearing the ends of our careers and have little contact with the teaching centers wonder if students, interns, and residents receive any instruction now in the use of common sense. Does all treatment have to be scientific and done according to tests? Do they ever doubt the printed word of the medical journal or the spoken word of a teacher? In the field of obstetrics the teaching centers now seem to be devoting themselves to such esoteric things as amniotic fluid L/S ratios, electrodes on the fetal scalp, fetal scalp blood chemistry, daily urinary estriols, ultrasound monitoring, and so on. Most of these expensive modalities are still in the research stage, supported by research grants, I suppose. Most are designed for use in the "high risk" pregnancy. The assumption is that a normal pregnancy is a simple affair. Yet, in my experience most of the stillborns are surprise tragedies occurring to normal gravidae. So, in the future will all gravidae in the centers get these tests? What happens to the graduates of these places when they enter practice in hospitals which do not present possibilities for all these tests? Will they be able to use common sense, or art, or judgment? The cost-benefit ratios for many of these tests are such that insurance companies and patients may not tolerate them if used routinely.

Once, when one of his residents commented glowingly on a highly technical paper, Dr. Tiffany Williams remarked, "That paper simply doesn't make sense." Well, he was right. Its ideas were later dropped. Dr. Williams was trying to emphasize the point that the young man should cut through the scientific jargon and ask if the printed conclusions and teachings of others make sense. A "professor" in a seminar once told an elderly physician friend of mine that if you perform a classical section too high in the fundus you will likely kill the patient. He accepted this without thinking. We were taught for years never to explore the uterus, even under sterile precautions, unless absolutely necessary. Why not? How else can you find lost cotyledons, membrane remnants, and other interesting objects like forgotten I.U.C.D.'s? How will you ever be able to detect abnormal intrauterine findings if you do not explore frequently and develop your sense of touch? Dr. Eastman to the contrary, one can learn to feel membrane remnants if he explores frequently.

A retrospective analyst, studying the fact that there was little eclampsia in World War I Germany, decided that this happy fact was due to the lack of protein in the diets of gravidae. At once there was an uncritical vogue of restricting dietary protein. Common sense? Where are a gravida and her baby going to get their protein? The obvious answer to Germany's experience was the lack of young men at home and a consequent dearth of primigravidae.

Again, many people have long restricted the salt in the diets of pregnant women to prevent toxemia and edema. But comon sense tells us this is unwise. All living growing tissue requires salt. It has now been proven by complicated physiological chemical studies, and thus acceptable, that salt restriction is self-defeating and even dangerous if carried to extremes. Whole-

sale administration of thiazide diuretics is equally dangerous in simple cases of pregnancy edema. We all know that with bed rest and oral fluids gravidae diurese markedly. Why has not this common sense treatment been used more?

Careful observation and reference to one's own experience will often make unnecessary a number of complicated time-wasting "tests". Too much emphasis on tests and the scientific approach may dull the common sense which makes obstetrics an art which heals. The best tests are our senses of touch, smell, and hearing. And our best protection against the insidious printed word is sensible doubt. Where is the flaw in the author's reasoning or facts? Sometimes lost in the record room are case histories which might negate conclusions.

GORDON W. JONES, *M.D.*

The AMA Takes the Offensive

A POSTSCRIPT to the last editorial ("The AMA Speaks Out") in the March issue of the *Virginia Medical Monthly* pointed out a 180° switch on the part of Secretary of Health, Education, and Welfare Caspar Weinberger when he decided not to pursue his proposed regulations requiring preadmission certification for hospitalization of Medicare and Medicaid beneficiaries. The February 11 issue of *American Medical News* noted the decision by Secretary Weinberger was announced on February 5. This happened to be the same day Chairman James H. Sammon and other officers of the AMA Board of Trustees discussed this and related medical matters with President Nixon. Perhaps this was a coincidence, but in any event we can use more coincidences of this sort.

We have not learned if the president expressed any opinion regarding PSRO, but this would have been largely academic, for PL 92-603 was a Congressional decision. However, President Nixon could curb some of Secretary Weinberger's more objectionable ideas in implementing PSRO. The encouraging development is the more aggressive stance AMA has taken during the past few weeks. For the first time the AMA leadership has gone on the offensive against the ever-expanding control by HEW over the medical profession.

The most recent news out of Washington was the announcement by Dr. Sammons and AMA President Russell B. Roth on February 19, that the American Medical Association had filed suit in the United States District Court for the District of Columbia for "Declaratory Judgment and Injunction" against the Cost of Living Council and its members.

In a press conference, held on the day the suit was filed, Drs. Sammons and Roth announced the AMA was endeavoring to seek an end to all economic controls on medical care. They further stated they sought to invalidate "the Phase Four regulations as applied to physicians and hospitals on the grounds that they are confiscatory, arbitrary, capricious and discriminatory." These adjectives sound pretty strong to a layman, and it is hoped they will also sound convincing to the United States Court, but this, of course, remains to be seen.

Meanwhile, the officers of the AMA are not only speaking out against the politicians who have long exploited us, but they are now taking civil action against our persecutors.

H. J. W.

News . . . .

Calendar of Events

CONTINUING EDUCATION PROGRAMS SPONSORED BY UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE

"Angiographic Diagnosis in Gastrointestinal Hemorrhage"—Waynesboro Community Hospital—Waynesboro—April 23, 1974.

"Coronary Care"—Southwest Virginia Conference Circuit—April 24-25, 1974.

"Coronary Bypass Surgery and Selection"—Southwest Virginia Conference Circuit—April 24-25, 1974.

"Current Concepts and Transplantation"—King's Daughters' Hospital—Staunton—May 7, 1974.

"Rational Use of Oxygen as a Drug"—Langley Air Force Base—May 16, 1974.

"Experimental Peer Review of the Evaluation and Treatment of Gastric Ulcer Disease"—Waynesboro Community Hospital—Waynesboro—May 28, 1974.

CONTINUING EDUCATION PROGRAMS SPONSORED BY MEDICAL COLLEGE OF VIRGINIA

"Charles W. Thomas Lecture"—Division of Connective Tissue Disease—George Ben Johnston Auditorium—Richmond—April 16, 1974.

"Hand Seminar"—Divisions of Orthopedic and Plastic Surgery—Sanger Hall—Richmond—April 19-20, 1974.

"Pediatrics Day"—Department of Pediatrics—George Ben Johnston Auditorium—May 10, 1974.

Visiting Professor in Infectious Diseases—Richmond—May 13-14, 1974.

"Child Psychiatry"—Annual Spring Forum—Division of Child Psychiatry and Virginia Treatment Center for Children—Richmond—May 24, 1974.

Alumni Scientific Assembly—Department of Medicine—Richmond—June 1, 1974.

OTHER EVENTS

Joint Cardiac Symposium for Physicians—Heart Association of Northern Virginia—Marriott Twin Bridges Motor Hotel—Arlington—April 17, 1974.

National Conference on Rural Health—AMA—Detroit-Hilton Hotel—Detroit, Michigan—April 25-26, 1974.

American Public Health Association, Southern Branch—Annual Meeting—In conjunction with Annual Virginia Public Health Conference and Virginia Public Health Association—Holiday Inn/Scope—Norfolk—May 7-10, 1974.

"What's New In Pediatric Infectious Diseases"—Children's Hospital National Health Center and George Washington University School of Medicine—Sheraton Park Hotel—Washington—May 23, 1974.

"Head and Neck Anatomy"—A Continuing Education Course, Department of Anatomy, School of Medicine, East Carolina University—Greenville, North Carolina—May 28-31, 1974.

Seaboard Medical Association—Annual Meeting—Holiday Inn—Nags Head, North Carolina—June 13-16, 1974.

AMA Annual Meeting—Chicago—June 22-27, 1974.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 3-6, 1974.

New Members.

The following new members were admitted into The Medical Society of Virginia during the month of January:

Erlinda D. Alder, M.D., Lynchburg
Wilhelm Michael Baade, M.D., Blacksburg
Alan Gilbert Bartel, M.D., Norfolk
Robert Martin Blizzard, M.D., Charlottesville
Elpidio F. Capalad, M.D., Norton
Young-Kwon Chu, M.D., Richmond
James William Craig, M.D., Charlottesville
William R. Drucker, M.D., Charlottesville
Wayne Allen Geib, M.D., Roanoke
Jean Louise Harris, M.D., Richmond
Francis H. Holmes, M.D., Portsmouth
William W. Johnson, M.D., McLean
Robert Maynard Johnston, M.D., Leesburg
Joseph John Kowalski, M.D., Virginia Beach
James Edward Layton, M.D., Martinsville
Benjamin Lipstzin, M.D., Charlottesville
Ruben Villaflores Luna, M.D., Baltimore, Maryland
Roderick MacDonald, Jr., M.D., Richmond
Joseph R. Macys, M.D., Richmond
Vito J. Malta, M.D., Front Royal
Boyd D. Myers, M.D., Annandale
Vincent H. Ober, M.D., Norfolk
Nagindas L. Patel, M.D., Richmond
Frank Harrison Phillips, Jr., M.D., Roanoke
Raleigh Cox Powell, III, M.D., Richmond
Shahbeddin Rajaee, M.D., Alexandria
Marilyn Lewis Renfield, M.D., Falls Church
James Forrest Robinson, M.D., Portsmouth
Sidney Shankman, M.D., Bethesda, Maryland
William Jennings Shields, M.D., Front Royal
Joe Howle Sox, M.D., Clarksville
Hirsch W. Sulkowitch, M.D., Hopewell
Karl August Western, M.D., Richmond

New student members from the Medical College of Virginia are:

John R. Wine, Richmond
Chester Joseph Minarcik, Jr., Richmond

New Officers.

The following component societies have reported officers for 1974:

Accomack County Medical Society—President, Dr. Donald F. Fletcher, Horsey; vice-president, Dr. Walter Eskridge, Parksley; and secretary, Dr. Belle D. Fears, Accomac.

Alleghany-Bath County Medical Society—President, Dr. Julia Edmunds; president-elect, Dr. Edward Scherer; and secretary-treasurer, Dr. George N. Chucker (re-elected). All officers are from Clifton Forge.

Arlington County Medical Society—President, Dr. William D. Dolan, and secretary, Dr. Robert P. Nirschl.

Northampton County Medical Society—President, Dr. Thomas B. Hardman, Cape Charles, and secretary, Dr. Stephen Q. Rodgers, Nassawadox.

Northern Neck Medical Society—President, Dr. Horace E. Kerr, Colonial Beach, and secretary, Dr. Norman R. Tingle, Lively (re-elected).

Virginia Beach Medical Society—President, Dr. R. Lawrence Smith, and secretary, Dr. John A. Carlston.

Committee on Arrangements for Annual Meeting.

The 1974 annual meeting of The Medical Society of Virginia will be in Williamsburg, November 3-6. Newport News doctors are the Committee on Arrangement as follows: Chairman, Dr. G. S. Mitchell; Hotels and Halls, Dr. James W. Kintigh; Entertainment, Dr. Lawrence S. Cowling; Scientific Exhibits, Dr. R. Rives Bailey (Yorktown); Press and Publicity, Dr. R. J. Naurath; Golf, Dr. Herbert H. Neisser; Tennis, Dr. John M. Quarles; and Woman's Auxiliary, Mrs. Richard Robins, chairman, and Mrs. William O. Harris, Jr., vice-chairman.

Medical Grand Rounds.

With this issue of the Monthly, we are starting a new department—Medical Grand Rounds. This will be participated in by the

Medical College of Virginia and the University of Virginia, Department of Medicine. The first one on Drug-Induced Lupus Erythematosus was submitted by the Medical College of Virginia and in May one will be from the University of Virginia.

We would like to have your comments on this Department. This is your journal and we want it to be interesting and useful to you. Only by your criticism or suggestions are we able to improve it.

Dr. Houck Honored.

Dr. Peter W. Houck, Lynchburg, was named as one of the five outstanding young men in the State at the annual awards banquet of the Virginia Jaycees held in Norfolk in February. He is the first Lynchburg person in recent years to be selected for this honor. Dr. Houck is a pediatrician but in selecting him for the award, the Lynchburg Jaycees placed special emphasis on his civic involvement and the Virginia Jaycees placed more emphasis on his contribution and progress in his profession.

Dr. Matthew Lyle Lacy, II,

South Hill, has been installed as grand junior deacon of the Grand Lodge of Virginia, Ancient, Free and Accepted Masons. He is in line to become the 136th grand master in 1979.

Dr. Charles E. Davis, Jr.,

Roanoke, has been appointed to a five year term on the Board of Trustees of Roanoke College.

Staff Officers

For the Emmett Memorial Hospital, Clifton Forge, are Dr. George N. Chucker, chief of staff; Dr. Walter Vermilya, vice chief of staff; and Dr. Meade C. Edmunds, secretary.

Medical Staff.

Dr. Oscar W. Brodie has been elected president of the medical staff of Westbrook Psychiatric Hospital, Richmond. Dr. Rex Blankinship is vice-president and Dr. Gilbert Silverman, secretary.

Dr. George E. Chappell,

Halifax, has been appointed to the Halifax County School Board to fill an unexpired term to June 1977.

Richmond Academy of Family Physicians.

Dr. E. Lee Taylor has been installed as president of the Richmond Chapter of the American Academy of Family Physicians. Dr. John Cametas is president-elect; Dr. Gus Jackson, vice-president, Dr. Larry Boyce, secretary, and Dr. Marvin Weger, treasurer.

Louise Obici Memorial Hospital Conference.

The annual clinical conference of the Hospital was held in Suffolk on April 10th. The topic for discussion was Clinical Applications to the Management of Common Gynecological Problems. Moderator was Dr. Leo J. Dunn, Medical College of Virginia, and speakers were Dr. U. G. Turner, Charlottesville; Drs. W. Glenn Hurt and John A. Board, Richmond; Dr. William Andrews, Norfolk; Dr. Richard Upton, Portsmouth; and Dr. Joseph Yon, Miami, Florida.

The Annual Award for Outstanding Contributions to the Medical Profession was presented to Dr. Mason Cooke Andrews, Norfolk.

American College of Radiology.

The Virginia Chapter of the College will meet at The Homestead, Hot Springs, May 9-11.

Evaluation of Hyperimmune Gamma Globulin for Preventing Serum Hepatitis.

It is well recognized that medical and paramedical personnel have a greater than normal risk of developing hepatitis as a result of accidental inoculation (needle stick, broken glass-

ware, ingestion of contaminated blood at the time of pipetting, etc.). Current evidence indicates that standard gamma globulin provides little or no protection against developing serum hepatitis.

The Richmond Veterans Administration Hospital is participating in a national cooperative study together with the National Institute of Health in which the effectiveness of hyperimmune gamma globulin (with high titer antibody against Australian Antigen) will be compared to that of standard gamma globulin on a random basis.

All those accidentally exposed to hepatitis virus (excluding blood transfusion) from the Richmond area, willing to participate in the study and receive treatment, are invited to call Dr. Z. R. Vlahcevic or Dr. D. L. Mackenzie at the Veterans Administration Hospital, Richmond, as soon as possible after exposure.

The Virginia Heart Association

Will hold its annual meeting and scientific sessions for physicians and nurses at the Hotel Roanoke, Roanoke, May 7 and 8.

Mental Hospital Assistant Director, Clinical.

Physician needed to direct all clinical programs at a large multi-service mental hospital in the foothills of the Blue Ridge Mountains of Virginia.

Qualifications—Graduation from a recognized medical college supplemented by one year of rotating internship in an approved hospital, six years of psychiatric experience, at least three of which must have been in a mental hospital, and a license to practice in the State or eligibility therefore.

Salary range, $28,000 to $32,000 per year includes supplements for Board Eligibility-Certification and generous fringe benefits package.

Please send resume or inquiry to Assistant Director, Administrative, Western State Hospital, 301 Greenville Avenue, Staunton, Virginia 24401. (*Adv.*)

Physician Needed

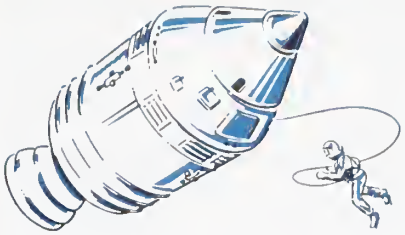
At the State Penitentiary in Richmond to work full or part time. Very good benefits and salary. Write Department of Welfare and Institutions, Recruitment and Placement Supervisor, 429 South Belvidere Street, Richmond, Virginia 23220, or call 770-2461 or 770-2584. (*Adv.*)

For Sale.

Irvington, Virginia, "The Green". Three bedroom, 2½ baths, luxury condominium on fabulous Tides Inn Lodge 18 hole course. Golf, pool, tennis privileges. Fully equipped, maid service. Lounge room with bar, fireplace, patio, overlooking water. J. P. Murphy, M.D., 8218 Wisconsin Avenue, Bethesda, Maryland 20014. Phone 301-652-4470. (*Adv.*)

Wanted.

Young Family Practitioner to associate with 38 year old Family Practitioner on Maryland's Eastern Shore. Fully equipped and staffed office. Hospital privileges available. Excellent hunting, fishing, sailing. Financial arrangements negotiable. Phone 301-476-3790 or write Ronald C. Lenthall, M.D., P. O. Box 131 Trappe, Maryland 21673. (*Adv.*)



Man in space, now fait accompli, re-emphasizes the impartance af Uro-Phosphate therapy. Research inta the effect af space travel an the astranaut reveals that weightlessness causes lass af bone calcium. As the banes are required ta bear less and less af the weight of the bady they lose calcium, increasing the calcium cantent af the urine. When physical activity is reduced, the acidity of the urine should be adjusted ta keep increased calcium in salutian . . . . a praphylaxis to prevent kidney ar bladder calculi.

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NOW A SUGAR-COATED TABLET

Each tablet cantains: METHENAMINE, *300 mg.;* SODIUM ACID PHOSPHATE, *500 mg.*

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Dosage:

For protectian af the inactive patient 1 ar 2 tablets every 4 ta 6 haurs is usually sufficient ta keep the urine clear, acid and sterile.

2 tablets an retiring will keep residual urine acid and sterile, cantributing ta comfart and rest.

A clinical supply will be sent to physicians and haspitals on request.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

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Manufacturers of Ethical Pharmaceuticals

Obituary . . . .

Dr. Chimer Davis Moore,

Wytheville, died January 20. He had been in declining health for some time and retired from active practice several years ago. Dr. Moore was seventy-two years of age and received his medical degree from the University of Virginia in 1929. He began his practice in Wytheville in 1930 and in 1935 was co-founder of the Chitwood-Moore Clinic. Being interested in laboratory technology, Dr. Moore started the first clinical laboratory in Wythe County in conjunction with the clinic. He served three years with the Army Medical Corps during World War II and was a battalion surgeon with the rank of Captain. Dr. Moore was one of the first presidents of the Wythe-Bland Medical Society and had been a member of The Medical Society of Virginia for forty-four years.

He is survived by his wife and two sons, one of them being Dr. Moore, Jr., also of Wytheville.

Dr. Hornbarger.

Dr. Ira Thomas Hornbarger, age seventy-seven, died December 9, 1973, after a short illness. He was still actively practicing medicine ten days before his death.

Dr. Hornbarger was born in Bath County February 28, 1896. He graduated from the University of Richmond, and the Medical College of Virginia. His internship was at Roanoke Hospital.

He returned to Hot Springs in 1924, where he has served this community for half a century. He was very active in community affairs. His epitaph has been spoken by many of his fellow citizens who said, "He was not only a fine doctor, but a fine Christian gentleman." Truly it will be said of him, "Well done, thou good and faithful servant, enter thou into the joy of thy Lord."

WHEREAS, This society has lost a valuable member, and

WHEREAS, This community has lost a fine physician, be it

RESOLVED, Therefore that these resolutions be made a permanent record of the Alleghany-Bath County Medical Society minutes, and be it

RESOLVED, That a copy of these resolutions be sent to The Medical Society of Virginia for publication in the Virginia Medical Monthly, and be it further

RESOLVED, That this society express its gratitude for the many years of service to this community and convey to Mrs. Hornbarger and her three daughters this sentiment by sending them a copy of these resolutions.

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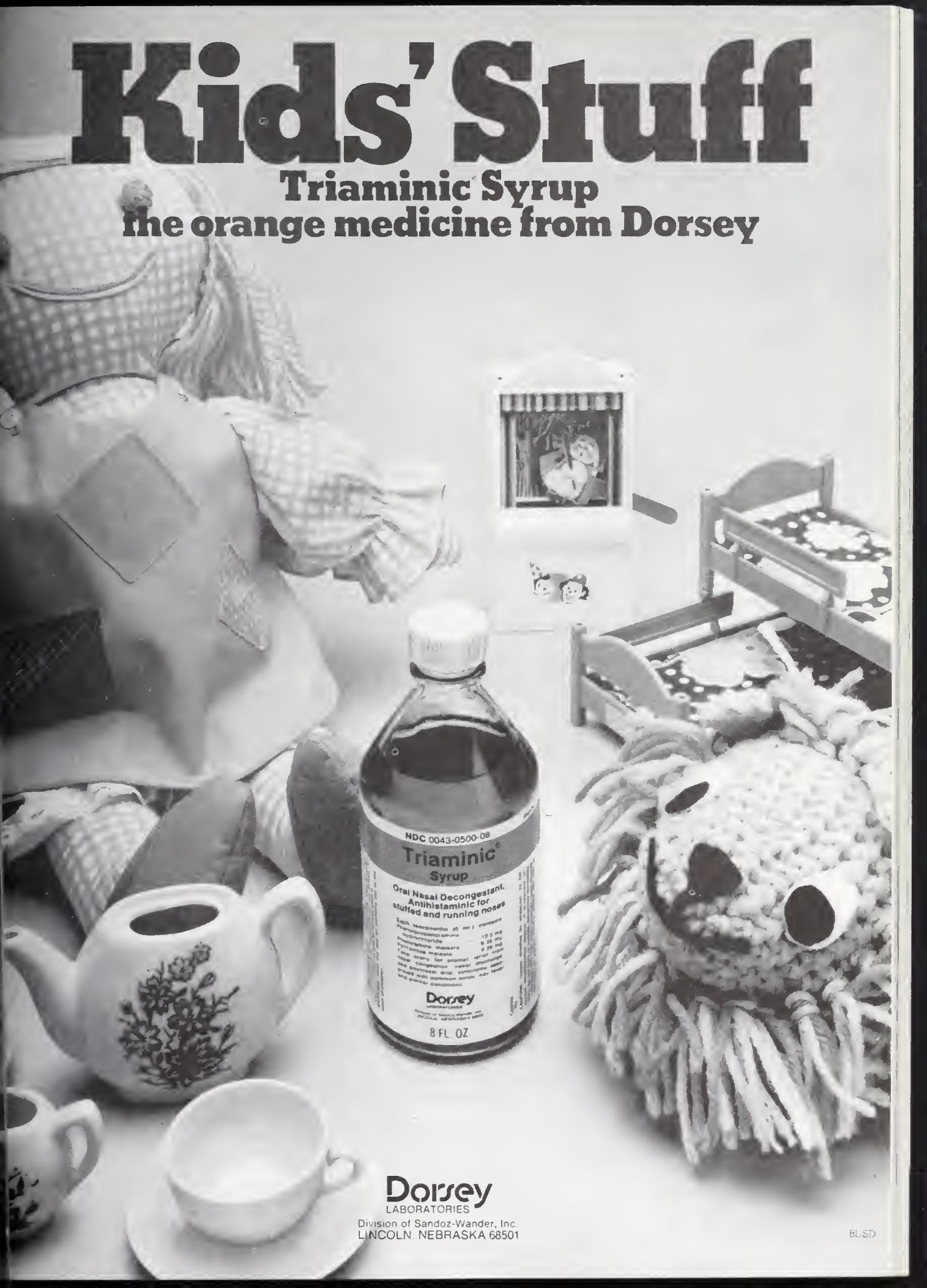

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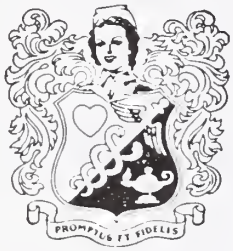

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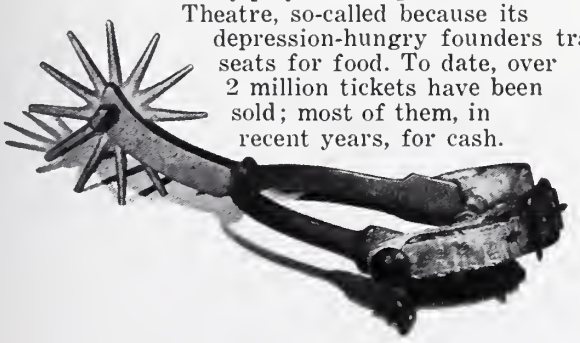

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1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T_4) to Triiodothyronine (T_3) in Athyreotic Human Subjects, J. Clin. Invest. *49*:855-64, 1970.
2. Surks, M. I., Schadlow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. *51*:3104-13, 1972.

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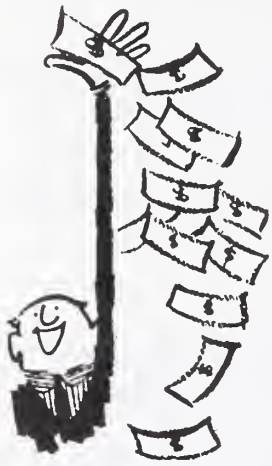

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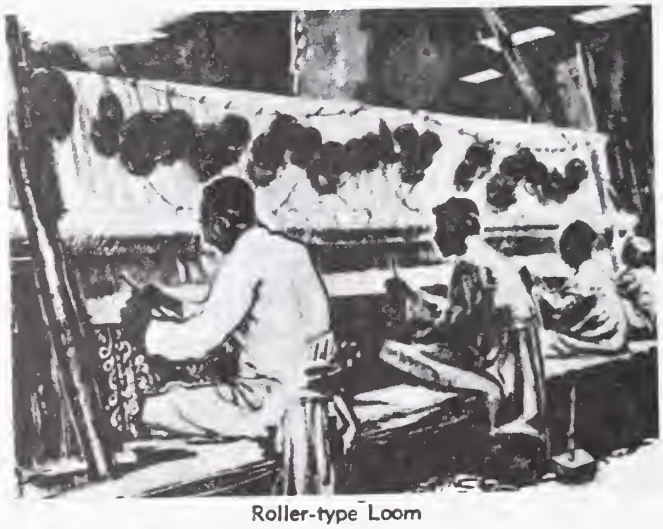

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BOSTON
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Virginia Medical Monthly

May, 1974 Volume 101

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(Founded by Landon B. Edwards, M.D., April, 1874)

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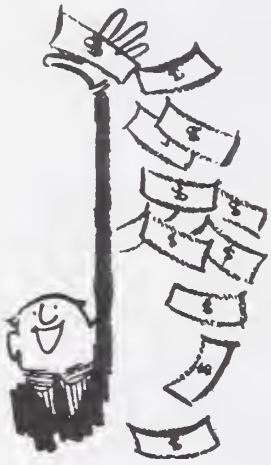

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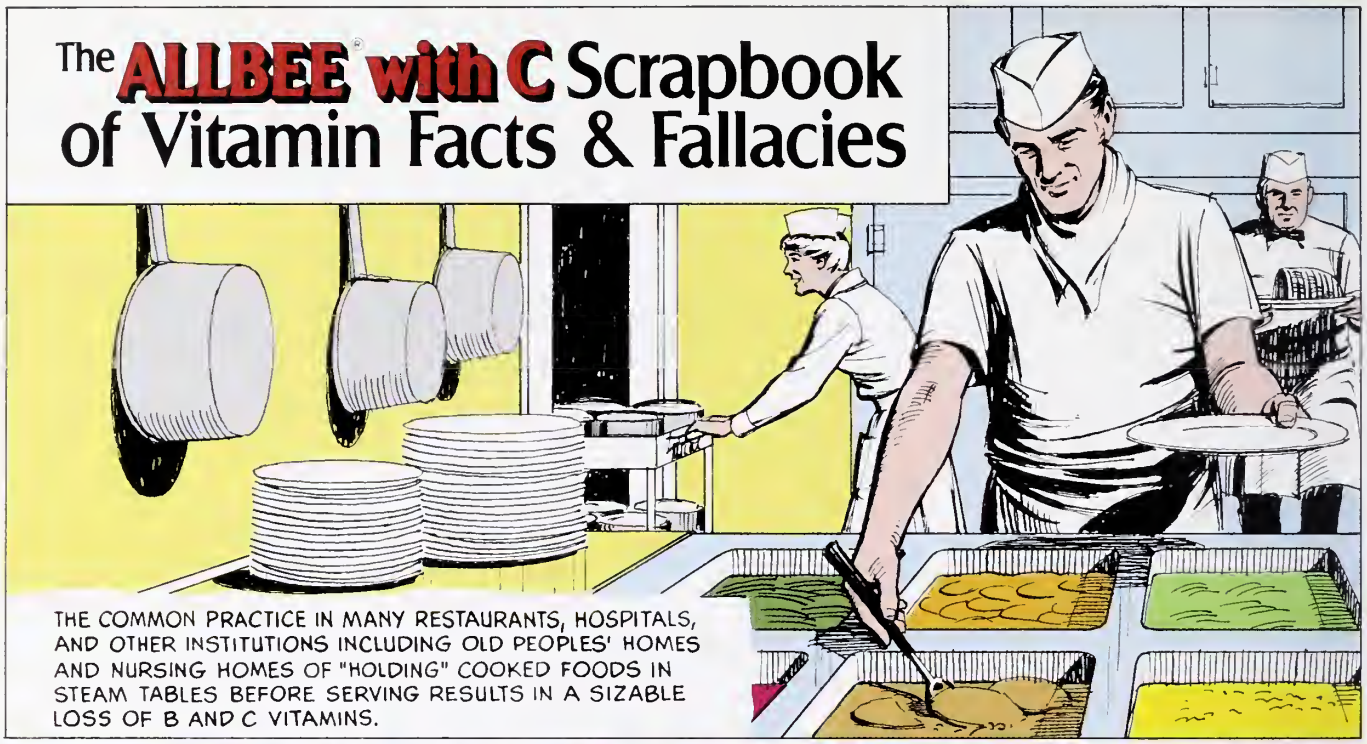

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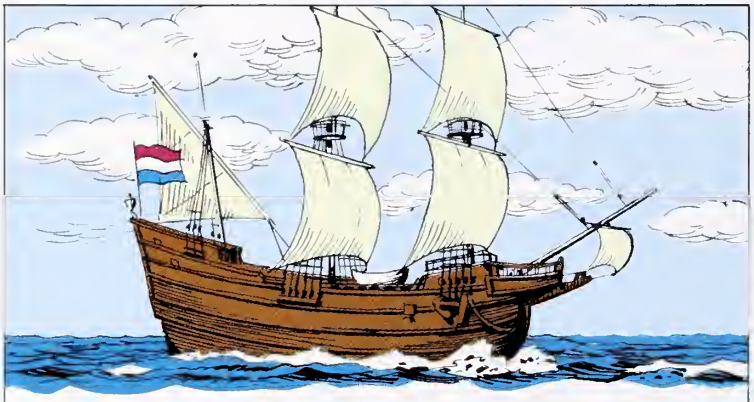

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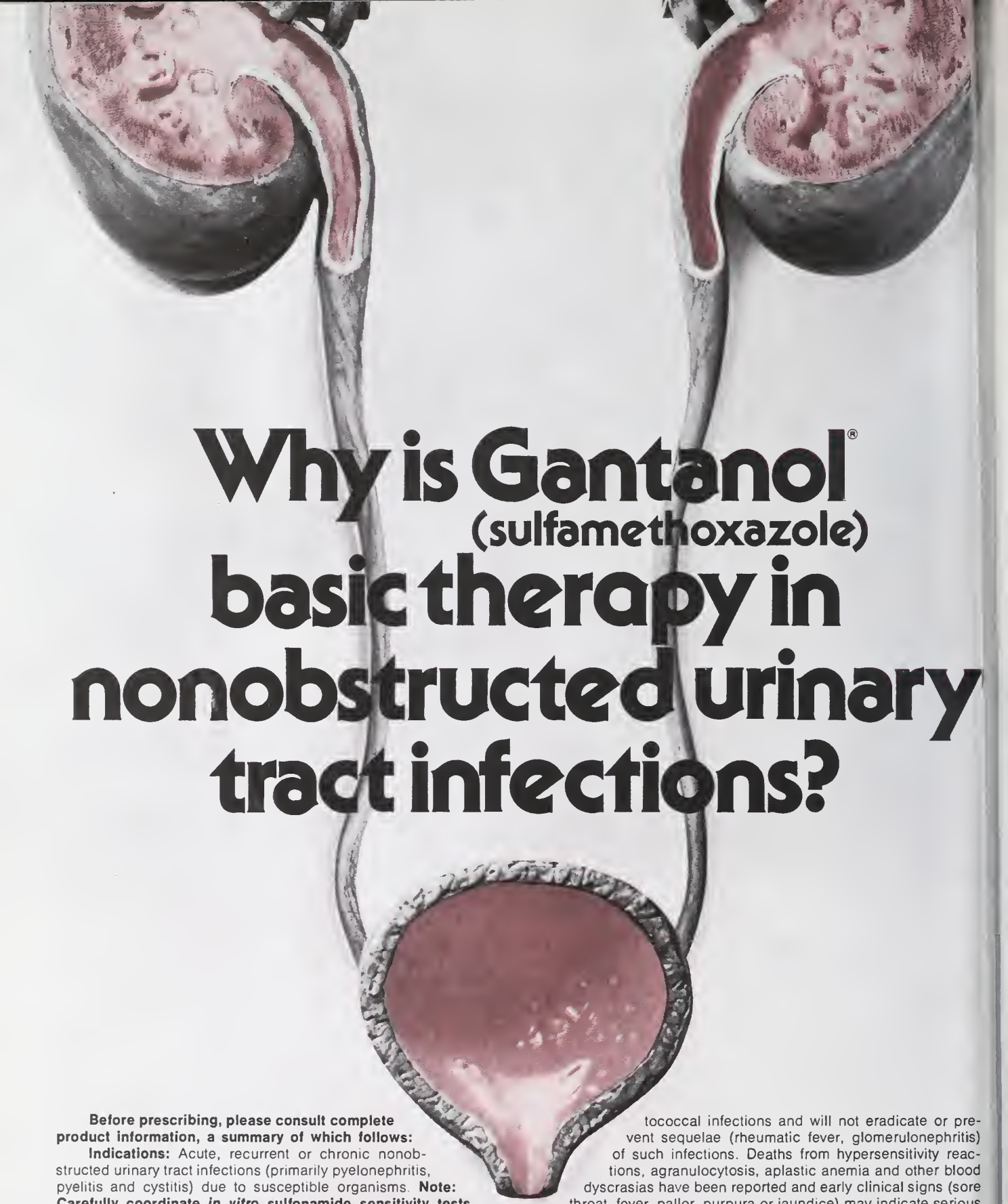

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Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

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The Virginia
MEDICAL MONTHLY

May, 1974
Vol. 101, No. 5
Whole No. 1464

Guest Editorial . . . .

Just a Few Words

TIME AFTER TIME I have had the following complaint presented and I think it would be appropriate if the medical profession did something to remedy the situation.

Patient: "I took my (child-mother-husband) to the specialist and he didn't do much for him. He prescribed this medicine which I have given exactly as directed and he is still as sick as ever."

I: "What did the doctor say was wrong?"

Patient: "He didn't say. He hardly looked at him. You know the specialists are so busy they don't talk to you or examine you—they just rush because they are so busy. Can you do anything to help? At least I know you will talk to me."

Isn't it time we took a second look at ourselves and especially our young, active colleagues working in groups? Are they stressing the struggle to beat the clock too much? Are they hurrying to get through to keep social appointments which seem so vital to today's young people? Are they genuinely interested in helping a patient get well?

It is my feeling that many (not *all*—but too many) young doctors are so concerned with the business of living and achieving certain personal goals that they have forgotten the primary purpose of the practice of medicine—i.e., to either get the patient well or at least to alleviate his mental or physical distress and this includes the distress of the family concerned. A little time, a little understanding, a few words at the right time is sometimes the best of all prescriptions.

Patients with the above noted complaint are becoming more and more numerous in the past ten years and I am beginning to wonder just what the objective is of a doctor who is just too busy to "really look at my baby".

M. A. Pennington, M.D.

Buckingham, Virginia 23921

PSRO, NHI, HMO'S—The Doctor's Dilemma

ROBERT IRBY, M.D.
Richmond, Virginia

FIRST, I should like to thank each and every member of the Richmond Academy for your confidence in having me serve as President of this organization for the coming year. You can rest assured that I shall try to lead the group to the best of my ability, and likewise shall count upon each of you for your wholehearted support in the various activities of the Academy.

Supported by our strong Academy Board, I hardly see how we can lose, and as the year goes on, many of you will be called upon to assist in various assignments and serve on regular and ad hoc committees or as delegates to the annual State meeting, which will be held in Williamsburg this year.

Until the past few years, I had felt that the Academy had not been entering into the overall operation of our State Society, but with Bill Hill now as President Elect and Percy Wootton as an AMA alternate delegate, we can say with pride that the Richmond Academy is in the "driver's seat" and we look forward to a most successful year in the State Society.

Professional Standards Review Organization

Moving now to the National scene and National issues which affect us at local level, I am sure that many of you are thinking "What does our new President think about PSRO?" My answer to that is the same as the majority of the members in this room. I feel that it is a bad law and cannot accomplish its objectives of lowering costs and delivering quality health care. It will probably eventually substitute government review for peer review and that will inevitably raise the cost of medical care. Most of our patients, even the unhappy ones, do not want bureaucrats or even doctor bureaucrats telling their doctors when his patient can enter the hospital, how he will be treated, and how long he will be able to stay. This is exactly what is going to happen unless those persons serving on local PSRO guideline and medical audit committees use good judgment.

While PSRO rules and regulations would concern only Medicare-Medicaid patients at present, it takes one with only little foresight to see how this will soon be the shape of things to come for all concerned.

At the Clinical Convention of the American Medical Association last month at Anaheim, California, our delegation joined with seven other state medical societies in introducing resolutions to repeal the Bennett Amendment. This was supported by an open letter signed by over 40 U. S. Congressmen and read to the convention urging the delegates to pass resolutions asking for repeal of PSRO. However, the AMA should have a more workable plan to present before this is repealed because Con-

Presidential Address delivered before Richmond Academy of Medicine on January 8, 1974.

gress would just pass another law which might be even worse. The primary purpose of the law is to save the government money and quality medical care is supposedly a spin-off. Dr. Simmons, the government top administrator for PSRO hedged on the matter of costs and was careful not to say that PSRO would save money.

All right—so PSRO is upon us and planning sessions have begun in many hospitals in Richmond. We have a program for the Academy next month in which Dr. Ray Smith will moderate a panel consisting of Drs. Richard Palmer, Vice-Chairman, AMA Board of Trustees, and William O'Brien of the University of Virginia who did early work in the EMCROW project with Dr. Respess. I am sure that many of you who have questions regarding PSRO will find your answers here.

The action taken by The Medical Society of Virginia in Norfolk proposed a plan to comply with the provisions of Public Law 92-603. By this plan there would be one large PSRO in Virginia with five satellite areas in the State responsible to the State PSRO. However, as you know, this plan was set aside by the Health, Education and Welfare Department and only 25 states—the less populous ones—were designated separate PSRO areas.

The other 24 states, including Virginia, will have multiple PSRO units within their borders and Virginia will have five. These areas correspond in general to the satellite divisions formulated by The Medical Society of Virginia. The reason for not accepting The Medical Society of Virginia plan by Health, Education and Welfare was due to the population of physicians and patients, the geographical make-up and the heterogenity of the State of Virginia. Our area here is designated as Area 4 and, in general, is spoken of as "Southside Virginia" including 22 counties, the city of Richmond, Colonial Heights, Hopewell, Petersburg, and South Boston. A thirty day waiting period for comments, suggestions and objections has been allowed.

On December 29th, Drs. Martin and Keeley of Roanoke went to Washington to confer with Senators Byrd and Scott to see if anything could be done to reinstate the Medical Society plan. I have spoken with Dr. Martin who tells me they also met with Dr. Charles Edwards and Dr. Simmons who is acting PSRO director. Dr. Martin felt that Senator Byrd was definitely sympathetic to our cause and both Dr. Edwards and Dr. Simmons felt that they needed to take another long look at The Medical Society of Virginia plan. I might interject at this point to urge any of you who know Senators or Congressmen well to prevail upon them to contact Dr. Edwards or Dr. Simmons.

The next step then is to respond to the Federal Register indicating the advantages of our plan. However, if unsuccessful, a special session of the House of Delegates of The Medical Society of Virginia will need to be called to vote upon the acceptability of the present H. E. W. plan.

The method of peer review would begin at any given hospital with a familiarization phase and procede to a full-scale computerized operation when the institution is ready. "Ready" would mean understanding and acceptance of PSRO criteria and personnel trained in specific aspects of PSRO. Fortunately, the law does allow a trial period of two years during which PSRO gradually absorbs function.

The next phase would be that of sampling charts subjected to computer for quality of care and cost analysis. From this information a data bank would then be formed to improve PSRO criteria and hopefully lower hospital costs.

Each PSRO then could provide information or even publish up-to-date profiles on individual physicians. Doctors who over-prescribe certain drugs, over-utilize certain procedures, such as tonsillectomies and appendectomies, render deficient care or otherwise fail to meet their "obligations" would be identified by means of computerized profiles. Also financial sanctions are authorized by H. E. W. which might bar a physician from further participation in Medicare and Medicaid. This will cer-

tainly signal the beginning of a new era in American Medicine.

Writing in the New England Journal of Medicine, Dr. Claude Welch, president of the American College of Surgeons, commented:

> "The philosophical implications involved are contrary to principles of many doctors who pride themselves on independence of thought and action.
> "Deep philosophical problems are involved that will change the whole practice of medicine.
> "Physicians will of necessity become cost conscious, a feature at present woefully lacking.
> "No longer will they be able to use expensive bed space to do ambulatory work-ups.
> "The publication of norms for diagnosis and treatment will make doctors realize their own deficiencies."

Dr. Welch later said that it would be a tragedy if organized medicine turned its back on PSRO, and with strong leadership from the medical profession, PSRO's can and will work for the betterment of medicine.

Even though The Medical Society of Virginia resolved to support efforts to repeal the PSRO section of Public Law 92-603 and a similar resolution was passed at the AMA meeting at Anaheim, it appears that PSRO is here to stay, so let's make the best of it. With all the other major problems in Mr. Nixon's administration, efforts to repeal this law may be unrealistic.

National Health Insurance

Now to move on to a subject which has an equally great force in regimentation of physicians—that of National Health Insurance.

The Department of Health, Education and Welfare has drafted a national health insurance bill for the President to propose to Congress this year. This bill would cost more than the administration's previous bill, but less than the Kennedy Health Security Act. The H. E. W. plan would rely upon private companies and Blue Cross. It would replace Medicaid (but not Medicare), offer catastrophic coverage, care for prescription drugs and both hospital and physicians' fees. The annual premium would be about $625 a year for a family and the employer would pay ¾ of this cost. For the medically or financially indigent the government would pay premiums for those families with incomes below $5,000.00 per year. Under both plans patients would carry medical credit cards issued by their companies and thereby insure immediate payment. This bill would carry a price tag of about ten billion dollars but Congress ignored a similar bill which was only 1/3 of this amount. Consequently the whole question of National Health Insurance will probably be deferred until after the 1974 elections.

Health Maintenance Organization

On December 29th the President signed the Group Health Bill into law. The next few years will then force us to make another decision—whether to join or fight HMO's.

There is little that is new in the concept of a health maintenance organization. The components are prepaid premiums, group practice, closed or restricted membership, and a complete range of medical services. This plan has been utilized for a number of years in such places as the Kaiser-Permanente program. There are about 60 HMO's operating now with others coming up, aided by H. E. W.

The Nixon administration likes the HMO concept and the law provides $375,000,000.00 for the next five years for the development of HMO's. Behind this commitment is an attempt to provide health care services for two groups of people—the urban poor and the hard to reach rural American. However, HMO's have been accused of cutting corners in an effort to keep patients out of hospitals and thus lower costs. Other physicians are accused of over-utilization and practice "defensive medicine".

There are many different types of HMO's in existence today and I shall describe one briefly. This is the Columbia Plan which was formulated in October, 1969, and contains

about 15,000 members from companies, groups or organizations. This is an all inclusive type plan with free hospitalization except for a $100.00 maternity-care fee. Prescription drugs and office visits run about $2.00 each as well as doctors' visits to the home. This HMO has been in operation for about four years and is sponsored by the Johns Hopkins Medical Institution and Connecticut General Life Insurance Company. Under the new law grants and contracts will be made available to plan and establish HMO units. Loan guarantees can be made to keep up and help in the early periods of operation. At the end of the five year period, it is hoped that the value and drawbacks of this system will have been demonstrated and that many HMO's will have been put in operation.

There are some items of local interest in medicine here in Richmond to which I should like to call attention.

1. A planning grant has been awarded in the amount of $200,000.00 from the National Institutes of Health to be utilized in formulating plans for a comprehensive Cancer Center here in Virginia. The organizational structure is on the move, and the NIH will decide upon funding a comprehensive Cancer Research Center at MCV to serve the whole State of Virginia. Dr. Walter Lawrence is acting director of this project and the Richmond Academy Board has given Dr. Lawrence its wholehearted support.
2. Hypertension. A growing body of evidence suggests that prompt detection and treatment of hypertension substantially reduces the risk of serious complications. Consequently, the Virginia Regional Medical Program has allowed grant funds for the detection and treatment of hypertension in adolescent school children. Further aid in the form of funds for adult hypertension-screening and education may become available through the State Department of Health.
3. Centralized Blood Bank. A centralized Blood Bank has been endorsed by the Academy for centralization of both taking and storing of blood here in Richmond. This will obviate the necessity for the Red Cross Blood Van to come to Richmond from Norfolk and by the same token all blood drawn here will be kept here.
4. Utilization of members of the Woman's Auxiliary to a greater extent in Academy affairs. I do not feel that Academy members have shown enough appreciation or recognition for the work and assistance that these ladies have given the Academy in the past. We shall look forward to a greater participation and this will begin tonight with our tour of the library facilities assisted by the ladies. This will immediately follow this meeting.

In summary then I have touched upon subjects which have caused a great deal of concern on my part and on the part of every member in this room. The ramifications of PSRO's, HMO's and probably NIH to come, are certainly conceptually different from the type of medicine that most of you want to practice. However, the whole pattern of medical care is changing, rapidly changing, and I urge each of you to put aside rigid autonomy, but at the same time assume the position of being ever alert and not complacent.

Medical College of Virginia
Richmond, Virginia 23298

A Team Approach To Child Abuse

ANTHONY SHAW, M.D.
CORINNE H. CARR, M.S.W.
Charlottesville, Virginia

The University of Virginia's Committee for Child Protection, through its mobilization of medical center and community resources has proved effective in dealing with child abuse and neglect in Central Virginia and may serve as a model for similar hospital or community-based multidisciplined teams throughout the Commonwealth.

CHILD ABUSE and neglect are common and widespread in Virginia. In spite of the 1966 Virginia law requiring physicians and others to report suspected abuse and neglect, the small number of reports filed with the Bureau of Vital Records and Statistics in Richmond does not begin to reflect the actual incidence.

Lack of cooperation by physicians and other professionals required to report; lack of educational programs; lack of trained personnel; lack of interagency and intercommunity cooperation; lack of coordination between public and voluntary agencies, police, and judicial efforts; lack of planning at state and regional levels; lack of directive legislation; and lack of family rehabilitative services have resulted in failure to identify, failure to report, and failure to protect victims of abuse and neglect in Virginia.

From the Departments of Surgery, Pediatrics, and the Division of Social Work, University of Virginia Medical Center, Charlottesville.

Since the appearance of Kempe, et al's landmark paper, "The Battered Child Syndrome",[1] well over a thousand publications have appeared on various aspects of child abuse. Caffey in 1946[2] was the first to call attention to multiple fractures of the long bones of unknown origin which accompanied a significant number of cases of subdural hematoma. However, the significance of these lesions was not appreciated until the appearance of a paper by Woolley and Evans in 1955,[3] who studied 12 infants with multiple skeletal trauma whose households were unstable and dangerous. These authors found that the bone fractures, lacerations and hematomas healed and did not reappear when these infants were removed from their home surroundings.

Kempe and his associates demonstrated conclusively that the battered child syndrome, a clinical condition in young children who have received serious physical abuse, "is a frequent cause of permanent injury or death".[1] They pointed out that "although the findings are quite variable, the syndrome should be considered in any child exhibiting evidence of possible trauma or neglect (fracture of any bones, subdural hematoma, multiple soft tissue injuries, poor skin hygiene or malnutrition) or where there is a discrepancy between the clinical findings and the historical data as supplied by the parents." In this group of battered children, 10 per cent died, 25 per cent sustained permanent brain injury. The high incidence of death and brain injury in severely abused children was borne out by succeeding studies.[4,5,6] Subsequent research showed that the severely battered child was simply one end of a wide spectrum of child abuse, more aptly named by Fontana, "the maltreatment syndrome in children." [7,8] Since the consequences of neglect and abuse may be the same for the

child, Kempe and Helfer have more recently defined the battered child as "any child who receives non-accidental physical injury (or injuries) as the result of acts (or omissions) on the part of his parents or guardians".[9]

Lack of success in the areas of identification and reporting, particularly on the part of physicians, has led to the development of multidiscipline hospital teams to deal with child abuse. Modeled after Kempe's child protection team at the University of Colorado Medical Center, such multidiscipline groups have reported success in identifying, reporting and providing continuity of care to abuse victims in New York, New Haven, Rochester, Boston and Buffalo.

In response to obvious needs and deficiencies in the areas of identifying, reporting, and mobilizing child protection and family rehabilitation services, a multidisciplinary Committee for Child Protection (CCP) was instituted by the University of Virginia Medical Center in April 1972. The purpose of this article is to present to the Commonwealth's medical community the experience of this Committee in its first 18 months of operation and to suggest that establishment of similar multidisciplinary hospital-based teams throughout our State would contribute significantly to the protection and rehabilitation of thousands of children now at risk.

The University of Virginia Hospital's Medical Policy Committee, in establishing the Committee for Child Protection, charged it with the following duties.

1. To receive all reports of suspected child abuse/neglect originating within the hospital or referred to the hospital by an outside agency or agent.
2. To carry out the hospital's legal responsibility for reporting suspected cases to the mandated authorities.
3. To assist these authorities in determining if in fact there is a reasonable suspicion of abuse or neglect.
4. To cause to be filed a petition of child neglect or abuse with the juvenile court of jurisdiction if the preliminary study warrants such a suspicion.
5. To cooperate with the court, other hospital clinics, local physicians and community agencies in formulation and implementation of definitive care plans which will serve to protect the child (or children) and to rehabilitate the family.
6. To carry out educational programs on child abuse and neglect for hospital and community personnel.
7. To give impetus to research programs in the areas of child abuse and neglect.

Composition of Committee for Child Protection

The Chairman is the Chief of the Pediatric Surgical Division at the University of Virginia Hospital. The Committee Coordinator is the Hospital's Senior Pediatric Social Worker. Other members of the Committee include two pediatricians, a child psychiatrist, a psychiatric social worker, a hospital administrator, a pediatric nurse, a third social worker, and the chief pediatric resident. Special consultants to the Committee include three professors of law, two directors of local departments of public welfare, the director of a regional public health department, a juvenile court judge, a professor of surgery, a professor of pediatrics, a medical social work administrator, a social work consultant with the Bureau of Crippled Children, a hospital night superintendent, and a Virginia State Senator.

The Committee holds luncheon meetings on alternate Mondays. Agendas include discussions of new referrals, review of older cases to assure continuity of care, planning of educational programs, and reports of community coordination and research efforts. In addition, any three Committee members are On-Call to respond to crisis situations and complex child abuse cases.

Methods

The Committee for Child Protection's methods of operation will be discussed in reference

to the seven areas of responsibility as outlined above.

1. *Receiving Reports.* The sources of referral to the CCP are listed in Table I. The major single source of referral is our hospital's Emergency Room, each referral requiring a high index of suspicion on the part of the physician. The two children referred by the Medical Examiner were dead on arrival. As the activities of our Committee become better known, increasing numbers of consultation requests and referrals are coming from community agencies, concerned neighbors and relatives, and by self-referral.

TABLE I

University of Virginia Medical Center
Committee for Child Protection
Detection-Referral Sources in 87 Cases

University of Virginia Hospital—Total 43
- 21—Emergency Room
- 11—Clinics
- 9—Wards
- 2—Medical Examiner

Community—Total 44
- 12—Parent
- 7—Self-Referred
- 6—Local Welfare Department
- 3—Local Physician
- 3—Relative
- 3—School
- 3—Neighbor
- 3—Local Health Agency
- 2—Day Care Personnel
- 1—Church
- 1—Police

2. *Reporting Suspected Cases to Mandated Authorities.* Section 16.1-217.1 of the Virginia Code requires physicians and other professionals to report *suspected* instances of child abuse and neglect to the juvenile and domestic relations court or to the local sheriff or chief of police. The juvenile court forwards each report to the Bureau of Vital Records and Statistics in Richmond. As shown in Table II, 44 such reports were submitted by the CCP out of 64 children referred directly to the Committee. In several cases, children were referred to the CCP by physicians in private community practice who had become informed about the Committee and its multidisciplinary approaches to case management.

TABLE II

University of Virginia Medical Center
Committee for Child Protection
Statistical Review of Cases

TOTAL NO. REFERRALS AND CONSULTATIONS		87
No. Community Consultations		23
No. Referrals for Suspected Abuse/Neglect		64
No. Assessed As Accidentally Injured, Not Reported	8	
No. Reported to Bureau of Vital Records (22 Abuse)	44	
No. Reported by Other Investigating Agency (Unconfirmed)	9	
No. Overage for Reporting	1	
No. Pending Assessment	2	
No. Involving Court Actions		14
No. Children Placed Outside Family		17
No. Returned to Family Following Placement		1
No. Expired		5

3. *To Assist the Court and Sheriff's Department in Determining Abuse or Neglect.* The CCP's protocol on suspected child abuse requires that any staff physician who suspects abuse and neglect immediately notify the pediatric resident on-call, who, in turn, notifies the CCP Coordinator. Color photographs of any lesions are taken, and any child suspected of being an abuse victim is given a complete long bone skeletal x-ray survey. A high index of suspicion is sufficient to warrant admission of the child to the hospital for multidisciplinary assessment of the total family situation. Increasingly, local welfare departments are assuming responsibility from the court for protective service investigations and the CCP relies heavily on these departments for definitive home studies in order to make a determination of neglect or abuse.

4. *To File Petition of Neglect or Abuse.* Table II indicates that 17 cases of court actions were taken at the instigation of CCP. In a few instances, siblings of the abused or neglected child required foster home placement as well as the child on whose behalf the petition was filed. In an increasing number of cases, the CCP acts as a consultant group to local welfare departments on their initiated cases. When court petition becomes necessary, the welfare department rather than the CCP acts as the petitioner on the child's behalf. In such cases, however, individual members of the

CCP as well as physicians on the staff, may testify in court proceedings.

5. *Community Cooperation for Child Protection and Family Rehabilitation.* The experience of a similar multidisciplinary committee in Denver indicates that it should be possible to return 80 per cent of abused children safely to their families when adequate community resources are available to help the parents resist or overcome the pressures or weaknesses which lead them to abuse their children. In our series, 64 per cent of the children referred have been returned to their families, with 17 children or 36 per cent being placed in foster homes. To date, only one foster child has been returned to the family but two others have been released for adoption. In the majority of our cases, children have been only briefly removed from their homes for several days of hospitalization. In order to provide effective in-home services to the maltreated child and his family, the CCP has worked cooperatively with a variety of community agencies to mobilize services geared to each family's specific needs. Agencies which have become involved have included courts, probation departments, welfare departments, health departments, community and hospital-based mental health facilities, alcoholic rehabilitation agencies, day care centers, foster homes, schools, hospitals, community physicians, lawyers, churches, law enforcement agencies, family service agencies and civic organizations.

6. *Educational Program.* A strong, continuing priority of the CCP is its educational program. Starting with the professional staff at the University of Virginia Hospital and then moving on to presentations before physicians and other professional groups in the community and subsequently to state professional and lay organizations, CCP members have presented lectures, symposia, workshops, and film discussions. In these presentations, the CCP has strived to familiarize its audiences with the criteria of diagnosis of child abuse and neglect, to point out professionals' responsibility for reporting their suspicions as mandated by law, and to stimulate formation of multidisciplinary community and hospital-based teams which are tailored to the distinctive needs and demands of specific locales. It has become clear to us that the lectures we hold regularly for our house staff lead directly to increased identification of abused children in the same way lectures on any disease entity may lead to its recognition by physicians formerly unfamiliar with it. Our educational efforts with lay organizations have led to increased awareness of the magnitude of child abuse on the part of many communities and willingness to become involved with development of local and statewide programs directed towards prevention, early detection, and treatment of child abuse and neglect.

It has been particularly gratifying to witness the establishment of three community-based Committees for Child Protection within our hospital's emergency catchment area. Coordination between these committees and the CCP is serving to provide a higher quality and continuity of child protective services in our region.

7. *Research.* The Department of Psychiatry through its participation in the CCP has recently received a grant to conduct an intensive study of selected abusing families. Recently, the federal government, through the Department of Health, Education and Welfare, has announced that funds are available for demonstration programs in the area of child abuse and neglect. In allocating these funds, the federal government has made it clear that the approach it favors is one involving multidiscipline teams. On the basis of our experience in the past year and a half we would certainly endorse this approach.

Results

Table III shows by age group the various stigmata demonstrated by the 64 children referred to the CCP. As shown in Table II, only eight of the 64 referred children were subsequently believed to be accidentally injured. Nonetheless, the CCP maintains a coded file on all suspected child abuse and neglected cases coming to its attention. As an

integral part of its operations, the CCP conducts a quarterly review of all cases which is directed towards assuring continuity of protective services and therapeutic interventions with the goal being optimum family rehabilitation. It has been noted that in cases monitored by the CCP, involved community agencies have a high investment in helping referred families.

TABLE III

University of Virginia Medical Center
Committee for Child Protection
87 Cases

AGE	NO. OF CASES	INJURIES
0-2	32	Skull fractures (5), burns, eye hematoma, vaginal tear, bruises, fractures arm and leg (2), pertussis-pneumonia-physical neglect, premature-unattended, poisoning, crab lice-neglect, infected skin abrasions-secondary to fall from car, infected burns and healed unexplained fracture, cigarette burns.
3-5	21	Head and body bruises, neglected burns, infected laceration, water deprivation, gonorrhea, poisoning, dental trauma, internal hemorrhages (DOA), healing bruises-third degree burns, belt marks, abdominal gunshot wound, malnutrition, lesions and subdural hematoma, cigarette burns, malnutrition alcohol ingestion, multiple facial abrasions.
6-11	13	Head and body bruises, fractured arm, belt marks, untreated lacerations, hand burn by sibling, dehydration (expired), sodomy, hand burn, face and body bruises, sexual molestation.
12-17	21	Facial laceration, belt bruises, gonorrhea, incest (2), sexual molestation, dislocated neck, multiple lesions-infected burns-malnutrition, gunshot wound (2), head laceration, flank bruises, body and hand bruises, severed Achilles tendon.

The following cases illustrate how the CCP team functioned in three different emergency situations.

Donna, age 4 months, was brought to the Emergency Room by her parents with a chief complaint of swollen eye. A local physician had referred them to our hospital. On examination, swelling of the right leg was noted as well as an infected eye hematoma. Skeletal x-ray survey revealed two healed rib fractures and a new fracture of the right fibula. When neither parent could give any explanation of the child's injuries and became evasive and hostile with each other the physician reported his suspicion of abuse to the Pediatric Resident on-call. As the pediatrician was able to elicit significant history of early feeding problems and the child's persistent irritability, the parents were able to accept his recommendation that the child be admitted to the hospital "for further treatment and evaluation". Joint and separate interviews with the parents during the next several days by the CCP's psychiatrist and social worker as well as nursing observation of hostile family interactions led the CCP team to seek a court order for temporary foster home placement of Donna. A petition was filed with the court. At the court hearing, the judge ordered that the parents comply with a series of diagnostic interviews at a local mental health clinic. Subsequently, under court supervision, both parents were involved in weekly therapy sessions. Several months later, Donna was returned to the parents with a local welfare department providing in-home supportive counseling conjointly with continuing parent therapy at the mental health clinic and periodic reviews by the CCP.

The case of Stanley illustrates the CCP team activities during the initial work-up of a child abuse case.

Stanley, age 12, presented at the Emergency Room with severe malnutrition, bilateral skull fractures, and extensive bruises and lacerations in various stages of healing. Shortly after the boy's arrival, in accordance with the CCP's protocol, the neurosurgeon contacted the pediatric resident on-call. In turn, the CCP Coordinator-social worker and another CCP member were alerted. While color photographs and x-rays were being taken, the CCP team met with the admitting physician to obtain information and to outline the next steps

in management of this complex, highly suspicious child abuse case. Since the widowed father's arrest was imminent and Stanley's three younger siblings would be unsupervised at home, a protective service referral was made immediately to the local welfare department with the three children being subsequently placed in an emergency foster home. The admitting physician requested CCP team assistance in formulating a protective hospitalization plan. Private room accommodations were arranged and visiting was restricted to medical staff and CCP professions engaged in definitive work-up of the total case. Later, when Stanley became ambulatory and his behavior became problematic with petty stealing and night-time wandering outside the ward, the CCP's night superintendent-consultant provided assistance in patient management. As the boy experienced increased trust of staff, disruptive behaviors decreased and initiated psychiatric treatment became more fruitful.

A hospital-based child protection team can effectively deal with medical neglect of children by mobilization of a concerned lay group.

When George, age 17 months, was admitted to the hospital with pneumonia, pertussis and poor hygiene, the CCP social worker met with the parents to arrange medical examinations of the two older siblings. On examination, both children were found to be ill with pertussis and urological disorders were identified in both youngsters. Although immunization service was available through the local health department, lack of transportation and the parents' general disorganized life style were seen as contributory to the three children's medical neglect. A local women's club was informed of the need for improved housing, transportation, and regular home visitation to assist the mother in organizing housekeeping routine. Through this lay organization, basic needs of this deprived family are now being met. The welfare department is providing supplementary financial assistance, improved housing has been secured, and the children are now under routine medical supervision.

If child abuse and neglect are to be reduced in our State, strong linkage must be formed between physicians, other professionals concerned with these problems and committed lay groups. Physicians must be willing to make the effort to learn more about the identification of abused and neglected children and be willing to report them to the responsible agencies whenever such suspicions are aroused. The law does free physicians from the fear of legal reprisals in making such reports. The formation of multidisciplinary child protection teams, community or hospital-based, creates a pool of expertise and responsibility in the management of such problems and acknowledges the responsibility of the total community to address itself to the maltreated child who is the ultimate and horrifying symptom of family pathology and, we must add, in many instances, community neglect.

From the CCP's experiences over the past year, a word of praise is in order for the fine spirit and leadership demonstrated by the Virginia Junior Women's Clubs. In adopting child abuse as its project for 1972-74, this organization has provided our Committee with large audiences around the State to which we could deliver our messages. Through leadership of this one committed organization, the traditional reticence of many physicians around the Commonwealth to "get involved" in the complex issues of child abuse is being overcome.

As this article is being written a legislative committee of the General Assembly is working on new legislation directed towards effecting a more viable and coordinated system of child protection services than is now provided by law. It is our hope that physicians in Virginia will be more willing in the future than they have been in the past to assume a key leadership role in community, state, and national attempts to deal with the problems of child abuse and neglect.

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Department of Surgery
University of Virginia Medical Center
Charlottesville, Virginia 22901

Heart Pacemakers Safe from Electrical Interference

Heart pacemakers are safe from outside electrical interference, says a report in the March 25th issue of the Journal of the American Medical Association.

Interference with pacemakers from such sources as auto ignition systems and small electric motors were noted several years ago, but later model instruments have been shielded against these sources. The extraneous signals are known as electromagnetic interference (EMI). The problem, although never a major one, prompted manufacturers to make changes in the pacemakers. As protection increased, so did the strength and variety of EMI sources. Problems were posed by leaky microwave ovens, weapons detectors, and high-energy radio, television and radar emissions from conventional and defense installations.

There is still concern about the importance of these sources of EMI, and studies are being done by physicians, manufacturers and governmental agencies. But, "It is important to stress that there are in fact very few documented cases of EMI affecting implanted pacemakers."

In some 2,000 patients and perhaps three times as many pacemakers, the researchers found only 10 documented cases of implanted pacemakers affected by EMI, and none of these was serious or fatal. "The action of environmental EMI on the patient with an implanted demand pacemaker does not at this time constitute an important clinical problem."

The report is by Nicholas P.D. Smyth, M.D., of George Washington University School of Medicine, Washington, D.C.; Victor Parsonnet, M.D., Beth Israel Hospital, Newark, N.J., and Doris J.W. Escher, M.D., and Seymour Furman, M.D., of Montefiore Hospital, Bronx, N.Y.

Correlation Between Cine-Coronary Arteriography And Small Q-Wave

HAMID M. AL-ABDULLA, M.D.
Richmond, Virginia
ALAN A. TAMBE, M.D.
HENRY A. ZIMMERMAN, M.D.
Cleveland, Ohio

It is shown that small Q wave in leads II, III, and AVF, even though so small as to be considered normal by most criteria, often is associated with coronary arteriosclerosis.

THE CLINICAL DIAGNOSIS of inferior myocardial infarction remains one of the most difficult challenges in electrocardiography. Its diagnostic pattern is classically based on the findings of an abnormal Q wave in the leads reflecting the inferior area of the myocardium, i.e., leads 11, 111 and aVf.

The widely held criteria for a Q wave diagnostic of a necrotic zone of the myocardium is mainly characterized by its width and depth.[1,2] According to some authorities, a Q wave which has a duration of 0.04 of a second or more is indicative of a dead zone regardless of its amplitude.[3]

The purpose of this paper is to try to correlate selective coronary arteriography with a small Q_3 in an otherwise normal electrocardiogram. All patients who were referred for coronary arteriography and displayed a "normal" Q_3 were included in this study.

The present study includes thirty-nine patients who were referred for selective coronary arteriography because of a history of chest pain suggestive of angina pectoris. The resting electrocardiograms were interpreted as normal. However, all of them had a small Q wave in leads 11, 111 and aVf. Thirty-six of the thirty-nine patients also had vectorcardiographic (VCG) recordings, utilizing the cube system of Grishman and Scherlis.[4] Each patient underwent cardiac catheterization including selective coronary cineangiography utilizing the Sones technic.[5] The dye used in visualizing the coronary arteries was 60% Meglumine diatrizoate. The 85% solution was used for visualizing the left ventricular cavity. The group consisted of twenty-eight males and eleven females. Their ages ranged from 32 to 62 years (average 47 years). Their resting blood pressure ranged between 110 to 170mm Hg. systolic and 60 to 80 mm Hg. diastolic.

Results

Of the thirty-nine patients studied, twenty-eight (72%) had coronary artery disease on selective coronary arteriograms (Figs. 1, 2) involving one or more of the major trunks. The classification of the severity of the disease involving the coronary arteries was described in a previous report.[6] The disease was considered to be severe and involving the three major trunks in twenty-eight patients. Of these, twenty-five were males and three were females. The females who had diseased coronary ar-

AL-ABDULLA, HAMID M., M.D., *Formerly Assistant Cardiologist, Department of Medicine, Highland View Hospital, and Instructor in Medicine, Case-Western Reserve University, Cleveland, Ohio.*
TAMBE, ALAN A., M.D., *Associate, Marie L. Coakley Cardiovascular Laboratory, Saint Vincents Charity Hospital, Cleveland.*
ZIMMERMAN, HENRY A., M.D., *Director, Marie L. Coakley Cardiovascular Laboratory, Saint Vincents Charity Hospital, Cleveland.*

teries had an average age of 47.7 years, as compared with 44.2 years in the normal group.

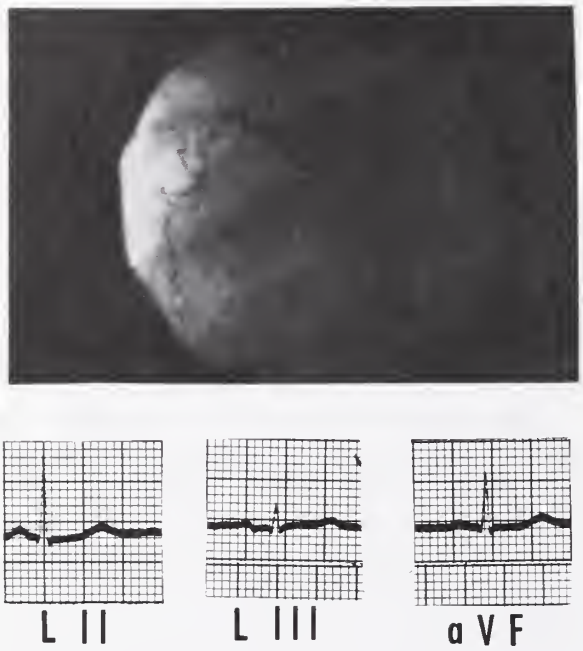

Fig. 1. The right coronary artery angiogram in the left anterior oblique position, and leads 11, 111 and aVf of the electrocardiogram of a forty-eight year old male with typical history of angina pectoris of one year duration. Note the diffuse, severe obstructive disease involving the entire artery. Note also the very small Q waves in leads 11, 111 and aVf which is considered non-pathologic.

Left Ventriculogram: The left ventricular cavity, as visualized on the ventriculograms, was found to show akinetic areas or areas with aneurysmal dilatation in seventeen of the thirty-nine patients, all of whom had severe disease involving at least one coronary artery. None of these had an associated valvular disease.

Vectorcardiogram (VCG): Abnormal vectorcardiograms, indicative of myocardial infarction, were recorded in fifteen of the patients with coronary artery disease. In fourteen of the fifteen patients, the vectorcardiograms revealed superior orientation of the initial vector of QRS loop in the frontal and sagittal planes, indicative of inferior myocardial infarction. In only one patient, the vectorcardiogram was consistent with an anterior myocardial infarction.

Dominant Coronary Artery: The dominant coronary artery is the artery which crosses the crux of the heart, supplying the inferior surface of the myocardium.[7] Based on this state-

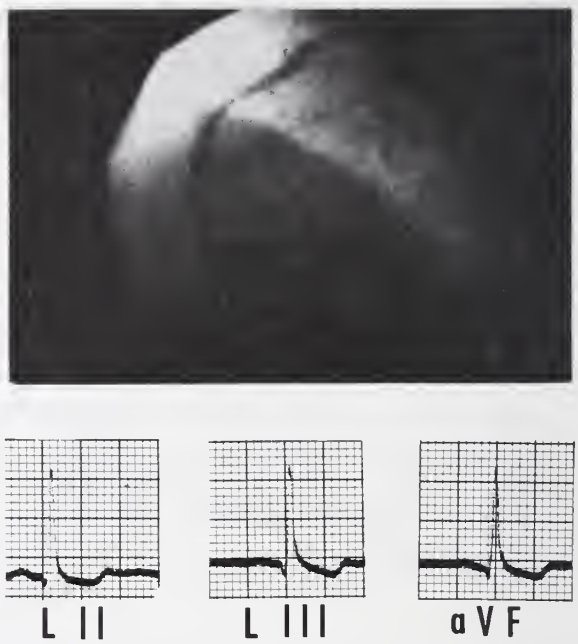

Fig. 2. The right coronary artery angiogram in the left anterior oblique position, and leads 11, 111 and aVf of the electrocardiogram of a fifty-two year old male with history of severe anginal pain and shortness of breath, especially on exertion. The patient is taking Digitalis. Note the marked narrowing involving the proximal part of the right coronary artery. There is only a small Q wave in leads 11, 111 and aVf.

ment, the right coronary artery was found to be dominant in thirty-one of the thirty-nine cases (79.5%). The left coronary artery was dominant in seven cases (17.9%) and the circulation was considered to be balanced in one case (2.6%).

Discussion

The diaphragmatic Q wave is still one of the most controversial deflections in electrocardiography. To the reader, a Q wave which has not met the criteria of depth and width, provided it is not accompanied by any significant ST and T wave abnormality, is considered to be normal (Fig. 1).[8,9] However, in some of our patients admitted to the acute coronary unit with the clinical, enzymatic and electrocardiographic evidence of an acute diaphragmatic myocardial infarction, we have seen complete disappearance of the infarction pattern; the only residual finding was a small and otherwise normal Q_3.

It is generally accepted that a Q wave does not necessarily reflect an anatomically dead area of the myocardium. A myocardial zone can be electrically silent without being anatomically dead. Because cardiac electromotive forces are merely a reflection of concentration gradients of potassium and sodium ions across the cell membrane, depolorization may fail to take place, thus leading to no action potential when severe electrolyte disturbances are present.

On the other hand, in acute coronary occlusion, the infarcted area of the myocardium includes not only a zone of tissue death but also a zone of tissue injury and an ischemic zone.[10] The myocardial cells within these areas may eventually recover and may become electrically active once coronary circulation has improved and inter-coronary collateral circulation established. The gradual decrease in the size of the anatomically dead zone may thus contribute to a similar decrease in the magnitude of the Q wave on the electrocardiogram. It follows that the previously widely-held theory that a necrotic area within the myocardium remains electrically dead and is reflected on the electrocardiogram by a permanent Q wave seems to be outdated.

Correlative studies between the pathological findings and electrocardiographic diagnosis of diaphragmatic myocardial infarction has emphasized the major limitation of the latter. In their study of seventy autopsied cases, Pearce et al[11] found twenty-five cases of inferior myocardial infarction, 20% of which did not meet the electrocardiographic criteria of a diaphragmatic infarction. In our series, twenty-eight of the thirty-nine cases with an "innocent" Q_3 were found to have coronary artery disease on selective coronary arteriograms and the majority of them showed disease which was considered severe and involving mainly the right coronary artery, which was found to be the dominant artery in all except three cases.

Furthermore, in 60% of these twenty-eight cases, akinetic areas or ventricular aneurysm could be demonstrated on their ventriculograms. It may well be that the establishment of collateral coronary circulations is responsible for the absence of a necrotic Q wave on the electrocardiogram. In the present study, 78% of the patients with coronary artery disease had collateral circulation mainly from the left to the right coronary artery.

Of the eleven patients studied and whose coronary arteries were considered normal, eight were female with an average age of 44.2 years. In some of our female patients, spasm of the otherwise normal coronary arteries was noticed during cineangiographic visualization. The patients also complained of anginal chest pain.

The superior accuracy of the vectorcardiogram as compared with the electrocardiogram in the diagnosis of myocardial infarction was pointed out clearly by Gunnar et al.[12] Our findings were similar to theirs in that twenty-six of our twenty-eight patients with abnormal coronary arteries have had vectorcardiographic recordings and in fifteen of them a diagnosis of myocardial infarction was made. In fourteen of the fifteen cases, the location of the infarct was considered to involve the inferior myocardial wall.

Summary

Correlative studies between selective coronary arteriography and the presence of a normal Q_3 on the electrocardiogram are discussed. Twenty-eight of the thirty-nine cases with normal electrocardiograms were found to have coronary artery disease involving mainly the right coronary artery.

The superior accuracy of the vectorcardiogram is stressed: fifteen of the twenty-five patients with coronary artery disease had abnormal vectorcardiograms consistent with myocardial infarction.

Although there is general agreement relative to the pathology of a Q wave which meets the criteria of width and depth, the interpretation of a small Q_3 remains very controversial. It is our belief that a small Q_3 in an otherwise normal electrocardiogram of an adult, especially male, who presents with a history of chest

pain, may reflect arteriosclerotic involvement of the coronary arteries and further investigation; including angiographic studies, should strongly be considered.

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2905 Monument Avenue
Richmond, Virginia 23221

Birth Control Pills and Heart Disease Risk

Birth control pills and the estrogen often administered to women following the menopause sometimes cause increases in cholesterol and other fats in the blood, an important risk factor leading to heart disease, says a report in the February 4 issue of the *Journal of the American Medical Association.*

A research group from the University of California at Los Angeles reports three cases of elevated blood fats among post-menopausal women on estrogen therapy and one case of a woman receiving oral contraceptives. In all cases the level returned to normal when the medications were discontinued. Each of the patients had a mild tendency toward high blood fats even without the estrogens.

Patients with a tendency toward elevated blood fats probably should not receive estrogen therapy, the report declares. They advised that women receiving oral contraceptive and postmenopausal estrogen therapy should be checked at six-month intervals for blood fats level.

The report is by Mark E. Molitich, M.D.; Phyllis Oill, M.D., and William D. Odell, M.D., Ph.D.

A Method for Evaluation of Knee Disability

JOSEPH S. MENSCH, M.D.
Los Angeles, California

CHARLES M. JAMES, M.D.
STANLEY M. ELMORE, M.D.
Richmond, Virginia

A system for rating knee disability is proposed in an effort to aid the clinician to assess methods of treatment, and to discriminate between them. There is an obvious need for a universal knee rating system to carefully evaluate the multiple arthroplastic procedures now available to the clinician.

MULTIPLE SURGICAL PROCEDURES have been devised to improve function and relieve pain in patients with knee disabilities. Each surgeon has his own method for determining what constitutes a successful result. Therefore, comparisons of results from authors on even the same procedure becomes difficult to assess. An impersonal quantitative method of assessment that is rapid, comprehensive, reasonably reliable and generally applicable is needed. Therefore, we based our evaluation system on the following concepts.

Two popular hip rating systems have integrated pain, function, and motion in a cumulative manner so that a single overall value is assigned.[2,4] The expression of disability in numerical terms makes comparisons easier; however, one must assume the inherent error of adding different parameters of evaluation.

From the Division of Orthopedic Surgery, Medical College of Virginia.

Presented at The Virginia Orthopedic Society, Williamsburg, April 28, 1973.

The descriptive terms used to assess the patient must be constructed to eliminate the need for subjective interpretation by clinicians, thereby reducing variables in the recorded results. Graded categories must be used which reflect the patient's general functional capacity. These provide information which can later be retrieved if needed.

The patient's own assessment of his surgery, although, perhaps, valuable, should not be included per se, because of his normal loyalty to the surgeon, and a natural reluctance to admit that the procedure was not worthwhile.

It is important to consider the type of individual who requires an arthroplastic procedure. Usually they lead a sedentary life because of their age and general health. This factor has value in the assessment of functional levels. Clearly, the patient with congestive heart failure and knee disability would be limited in functional activities by his cardiac condition alone, and not necessarily because of his knee disability. Therefore, evaluations which stress certain precise functional limits may give an invalid assessment.

It is generally agreed that the aim of any reconstructive surgery is to eliminate pain and to obtain increased function in the patient. The correction of physical deformity is implied in the normalization of function. We concluded therefore, that aspects of the physical examination should be minimized. In addition, a precise measurement of range of motion, quadriceps strength, ligamentous laxity, etc., in the knee examination is quite difficult to obtain in a reproduceable manner. The physical examination should be performed

separately and then correlated with the knee evaluation.

Method of Evaluation

Thirty patients (thirteen males, seventeen females, age range forty-seven to seventy-four years) who had a reconstructive knee procedure were questioned pre- and postoperatively regarding the degree of pain, the types of activities they could perform, and the activities they would perform but were unable to do because of knee dysfunction. They were asked to assess the relative value of each activity. Activities that involved similar knee motion and control were determined, and only those most frequently used were evaluated. Methods of compensation that patients had developed due to knee dysfunction to accomplish particular activities were observed. A physical examination was performed and findings were correlated with the patient's functional level.

The definitive parameters of pain, functional disability and deformity must be evaluated before the surgeon can consider a reconstructive procedure on the knee. Pain, undoubtedly, the most urgent motive which brings the patient to the physician must be balanced with actual functional disability. Non physiological angular deformities must also be assessed for their presence results in increased load per unit area, instability and progressive deformity. We have therefore divided a one hundred point system into forty-five points of pain, forty-five points of function and ten points of deformity.

Pain

The incremental parameter of pain needs definition. However, any evaluation of pain, because of its subjective nature, is imperfect. At this time there is no clinical method to accurately assess in the patient the amount of sensory input and cortical modification of pain stimuli. The evaluation of the surgeon may be additionally obstructed by the patient's difficulty in communicating the degree and reality of his pain in descriptions of mutual meaning. The problem exists, therefore, of a need to develop a practical evaluation of pain that is measurable. Traditionally, gradations of pain have been correlated to its effect on function. In addition, hip rating systems further evaluate functional disability. Function is therefore assessed twice. It is obvious that the stoic individual who does not allow his pain to lessen his functional capacity will be rated relatively high. Conversely, the hysteric will amplify his nociceptive stimuli to impair his functional level.

The effect of medication on the mitigation of pain offers a method of evaluation. All patients in this series, at one time or another, had been put on a trial of aspirin and experienced complete, partial or no relief of pain. Those without relief from salicylates resorted to either stronger anti-inflammatory agents or narcotics. The duration of the relief or the amount of salicylate required for each patient is not evaluated in this study for when these factors are considered complexities result.

This leads one to an imperfect but adequate evaluation of pain:

A. No pain ..... 45 points
B. Occasional ache, takes no medication ..... 42 points
C. Pain in knee relieved by aspirin ..... 35 points
D. Pain in knee relieved only partially by aspirin ..... 15 points
E. Pain in knee in which other analgesics must be used .... 0 points

Function

From our evaluation, seven activities appeared to describe our patients functional level. They were: (1) walking, (2) need for support, (3) sitting position, (4) sitting transference, (5) stair climbing, (6) use of a car, and (7) ability to kneel and rise.

All patients stated that the ability to walk greater distances was the main goal they wished to achieve. However, using specified distances to describe walking capacity is quite difficult. For example, the distance that an elderly person can walk who may have an asso-

ciated systemic disease and/or additional joint abnormalities is certainly less than one who is younger. Patients who agree to an arthroplastic procedure wish to return to functional levels that are compatible with their age and health. With careful questioning, a clinician can determine whether age, systemic illness or true knee disability is interfering with ambulation.

This category is therefore described as follows; support is used if needed in the determination:

1. All outdoor walking activities consistent with general health ..... 15 points
2. Limited outdoor walking activities restricted due to knee disability... 6 points
3. Indoors only ..... 3 points
4. Bed and chair ..... 0 points

Pain and significant physical deformities such as instability or shortening, either actual or secondary to a fixed flexion contracture, will produce a limp that can be alleviated with the use of a cane, crutch or brace. The need for support will therefore affect walking capacity and must be evaluated.

This category is described as follows:

1. None ..... 10 points
2. Needs cane frequently or occasionally ..... 7 points
3. Uses single crutch or uses brace 4 points
4. Two crutches ..... 0 points
5. Not able to walk (state reason) 0 points

Normal sitting position was believed very important to all those interviewed. According to Laubenthal,[5] normal sitting and rising from a chair in his subjects required 93 degrees of knee motion. It was apparent that patients with 80° to 90° of knee flexion without significant concomitant hip or back disease had no difficulty riding in a car, sitting in public places, dressing and foot care.

Sitting position is determined using a standard chair with a seat level of eighteen inches. It is described as follows:

1. Normal sitting position (80-90° knee flexion) ..... 6 points
2. Ability to sit with foot flat on floor ....3 points (This corresponds to at least 45° knee flexion)
3. Inability to sit with foot flat on floor ..... 0 points

Once seated, transference to the upright position is necessary. The use of one's upper extremities to accomplish this is required whenever the range of motion is restricted, strength is deficient, instability is present or the patient is unwilling to put weight on the involved knee.

It is described as follows, again using a standard chair:

1. Able to rise from a chair without using upper extremities for support... 4 points
2. May rise from a chair but must use upper extremities for support ..... 3 points
3. Unable to rise independently from a chair ..... 0 points

Stair climbing requires more power and control than level ambulation. Going up and down stairs foot over foot (swing phase foot moving two stairs up or down) requires 83° of knee flexion according to kinematic studies.[5] However, use of a bannister compensates for inadequate strength or the presence of instability. Climbing or descending stairs one at a time was observed in our patients in the presence of less than 80° of motion from near extension, inadequate quadriceps power or significant pain.

The ability to climb or descend stairs is therefore described as follows:

1. Foot over foot without using a bannister ..... 5 points
2. Foot over foot using a bannister 4 points
3. Stairs in any manner ..... 2 points
4. Unable to climb stairs ..... 0 points

It should be noted that patients are penalized only one point if they must use a bannister or support themselves when arising from a chair. Some elderly patients will still use these aids after a successful arthroplasty because it gives them the sensation of security.

The majority of our patients used the automobile for transportation and nearly all of them indicated that they experienced some difficulty getting in and out of a car. Apparently, entering or exiting an automobile requires an element of control that will allow rotation of the limb so that it can be guided in and out of the car door. Those without this control and even 90° of motion may still have difficulty. Therefore, patients entering a car must sit sideways on the edge of the car seat, then twist their body onto the seat. Occasionally the patient will have to manually lift the thigh into the car. Although many patients did not normally drive, many of those that did also expressed difficulty.

This category of assessment is therefore evaluated as follows:

1. Able to easily get in and out of a car plus drive (if applicable) .... 3 points
2. Difficult to get in and out of a car or drive (if applicable) ..... 2 points
3. Unable to get in and out of a car or unable to drive (if applicable) 0 points

The ability to kneel and rise from the floor is important in performing activities such as gardening and retrieving objects from under furniture. Two physical parameters (1) approximately 90° of knee motion from near extension and (2) adequate quadriceps strength and control are needed to perform this activity providing the opposite knee is normal. Patients who lacked these must hold on to stationary objects to gain support and some feared that if they fell they would be unable to arise.

This category is therefore described as follows:

1. Able to kneel and rise independently ..... 2 points
2. Able to kneel and rise but must use support ..... 1 point
3. Unable to either kneel or rise from kneeling position ..... 0 points

Deformity

Degenerative changes are progressive to a greater extent in those patients who exhibit non physiological varus or valgus angulation.[6] Angular deformities produce increased tensile force on the collateral ligaments as shown by biomechanical analyses.[3] The resultant ligamentous laxity tends to be progressive. In addition, ten degrees of angular deformity will cause a three fold increase in load per unit area.[7] We therefore believe that varus or valgus present either pre- or postoperatively beyond the physiological range implies a poor prognosis and that this important facet of the physical examination must be included in our evaluation.

However, what are the physiological limits of angulation that may be present in a patient so that the surgeon may be reasonably certain that results will be optimum? Currently the answer has not been completely resolved. An average of 9° of valgus is normally present;[8] however, admittedly, patients can be found with significant variations from the normal and still exhibit no pathological alterations. Bauer et al, in their review of tibial osteotomy for gonarthrosis, have stated that the corrected tibio femoral angle should be 164° to 177°.[1] We have concluded that valgus of over 15° or any varus angulation is a significant deformity and if present pre- or postoperatively, the 10 points allotted for this category must be deleted. Angulation is assessed with the patient in a standing position without use of support. It generally easily observed in the physical examination, but can be confirmed radiographically.

It may be observed that a patient with a knee arthrodesis in good functional position can possibly receive over 85 points, since he will receive full points for pain, walking, support and deformity categories. However, we must consider the implications of this functional evaluation. Based on our categories of assessment, the amount of patient's actual disability is not severe.

Synopsis of Knee Disability Evaluation

I. PAIN—45 points possible *Points*

A. No pain 45

B. Occasional ache, takes no medication 42
C. Pain in knee relieved by aspirin 35
D. Pain in knee relieved only partially by aspirin 15
E. Pain in knee in which other analgesics must be used 0

II. FUNCTION—45 points possible

A. Ambulation (with use of support if needed)

1. All outdoor walking activities consistent with general health ..... 15 (Distance walked _____)
2. Limited outdoor walking activities restricted due to knee disability (Distance walked _____) 6
3. Indoors only 3
4. Bed and chair 0

B. Need for support due to knee disability

1. None 10
2. Needs cane frequently or occasionally 7
3. Uses single crutch or uses brace 4
4. Two crutches 0
5. Not able to walk (state reason) 0

C. Sitting position using standard chair (Seat level 18 inches approximate)

1. Normal sitting position (80-90° knee flexion) 6
2. Able to sit with foot flat on floor 3
3. Unable to sit with foot flat on floor 0

D. Sitting-transference — using standard chair (seat level 18 inches)

1. Able to rise from chair without using upper extremities for support 4
2. May rise from chair but must use upper extremities for support 3
3. Unable to rise independently from a chair 0

E. Stairs

1. Foot over foot without using a bannister 5
2. Foot over foot using a bannister 4
3. Stairs in any manner 2
4. Unable to climb stairs 0

F. Car

1. Able to easily get in and out of car plus drive (if applicable) 3
2. Difficult to get in and out of a car or drive (if applicable) 2
3. Unable to get in and out of a car or unable to drive (if desired) 0

G. Kneeling and Rising

1. Able to kneel and rise independently 2
2. Able to kneel and rise but must use support 1
3. Unable to either kneel or rise from kneeling position 0

III. DEFORMITY 10 points—either of the following contributes a significant deformity and eliminates these 10 points. Check appropriate deformity.

1. Valgus over 15 degrees, any Varus 10

Summary

A knee rating system is presented from an assessment of a questionnaire proposed to 30 patients pre- and postoperatively. It is based on a 100 point value system evaluting the criteria of pain (45 points), function (45 points), and angular deformity (10 points). The effect of analgesics on the mitigation of pain is used for the pain evaluation. Seven graded cate-

gories (1. walking, 2. need for support, 3. sitting position, 4. sitting transference, 5. stair climbing, 6. use of a car, and 7. ability to kneel and rise) are used to describe the patients functional level. Non physiological angular deformities (valgus over 15° or any varus) are assessed because their presence implies a poor prognosis.

This impersonal system appears to offer a rapid, comprehensive generally applicable and reliable method for evaluation of knee disability pre- and postoperatively.

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DR. MENSCH: *Department of Surgery, Orthopedics*
School of Medicine
The Center for the Health Sciences
Los Angeles, California 90024

DRS. JAMES AND ELMORE
900 North Hamilton Street
Richmond, Virginia 23221

Safer New Rabies Treatment

A new rabies serum without side effects has been developed by researchers at the Center for Disease Control, the federal govenment research unit at Atlanta, Ga. The new serum is extracted from human blood, from individuals who have previously been immunized against rabies. Until now, rabies serum has been extracted from the blood of horses. The horse blood serum is effective, but it produces unpleasant and potentially dangerous side effects in at least half of those receiving the injections.

In a report in the January 28th issue of the *Journal of the American Medical Association*, the research team recommends that, on the basis of their findings, Human Rabies Immune Globulin (HRIG) be given to those individuals bitten by rabid dogs and other animals.

The serum is given in conjunction with the standard rabies vaccine, to speed the body's immune defenses against the disease.

"HRIG appears to be both safer and at least as potent as equine antirabies serum, and it should be substituted for the equine product."

The report is by Michael A.W. Hattwick, M.D., Robert H. Rubin, M.D., Stanley Music, M.D., R. Keith Sikes, DVM, Jean S. Smith and Michael B. Gregg, M.D.

Dr. Atkins' Diet Revolution: A Review

ROBERT NAGY
Charlottesville, Virginia

This review points out that Dr. Atkins' diet is not new, rather it is the same low carbohydrate, high fat, high protein diet which has been present under different names for many years. The fallacies and dangers of this regimen are discussed.

"MOST PEOPLE—and that includes doctors and dieticians—are totally ignorant of the metabolic imbalance that is the primary cause of almost all overweight." [1] Those are the words of Dr. R. C. Atkins, a Brooklyn cardiologist turned diet doctor. "I've treated ten thousand patients for overweight in the last 8 years—and—all have lost weight without counting calories, without diet pills, and most without feeling a single pang of hunger. But this diet isn't just a reducing diet. It's the medical treatment of choice for most people with adult-onset diabetes, with cholesterol problems, with ulcer problems, with migraine, with heart and arterial disease, and especially for the fatigue and emotional disturbances that accompany hypoglycemia." [1]

With barbs thrown at doctors, dieticians, hunger, and calories, the enemies of the obese, and a promise to cure what ails you, it is no small wonder that his book and diet are so popular.

Dr. Atkins' Diet

His diet is a low-carbohydrate, high-fat, high-protein (LCHFHP), ketogenic diet, where you count grams of carbohydrate, not calories. Patients monitor their ketosis with Ketostix. No significant carbohydrate is allowed the first week, and 5-8 grams are added daily each subsequent week so long as the dieter remains ketotic. The maximum carbohydrate level is usually less than 40 grams per day.

Does a LCHFHP diet sound familiar? It should. Most recently Stillman's "Doctor's Quick Weight Loss Diet" [2] advocated a similar diet, as did "Calories Don't Count" by Taller[3], "The Air Force Diet" [4], and Banting's and Harvey's[5] diets before the turn of the century.

Atkins' Metabolic Theory

Most of these diets are based on the assumption that obese patients have disturbed carbohydrate metabolism as a *cause* of their obesity, *not* a result of it. Atkins justifies his attack on carbohydrates and carbohydrate metabolism with an anthropological argument, pointing out that refined sugar and simple carbohydrates are a relatively recent addition to the diet of man, a carnivore for most of his existence. Consumption of sugar has gone up from almost nothing in the Middle Ages, to four pounds/person/year in 1750, to 20 pounds in 1850 to an estimated 170 pounds in 1970. Atkins believes that natural selection has not had enough time to evolve a system capable of dealing with this deluge of sugar. Thus, man's pancreas overreacts and pours out insulin, with the result being hypoglycemia. Hypoglycemia induces hunger leading to eating and this sequence causes weight gain.

The emphasis Dr. Atkins places on hyperinsulinism-hypoglycemia-hunger should be questioned. Although reactive hypoglycemia is a bona fide syndrome, it is not nearly as prevalent as Dr. Atkins suggests.[6] He may have put the cart before the horse when he

NAGY, ROBERT: *Fourth Year Medical Student at University of Virginia.* Work done during elective in Clinical Nutrition.

said deranged carbohydrate metabolism (hyperinsulinism) causes obesity; more correctly, obesity is often associated with increased insulin secretion.

Excessive insulin, besides being part of his proposed vicious cycle of snack-hyperinsulinism-hypoglycemia-hunger-snack, also prevents the mobilization of storage fat, and specifically antagonizes the action of Fat Mobilizing Hormone (FMH). FMH is the gimmick Dr. Atkins invokes to make his diet different from the others. This hypothetical hormone is a crucial part of his high fat diet. As the body relies more heavily on fat metabolism as its source of energy, the pituitary hormone (FMH) is released. But FMH has not been unequivocally identified. Some hormones: growth hormone (HGH), ACTH, glucocorticoids, catecholamines, and thyroid hormone are lipolytic, as is a lack of insulin, but they are not known as FMH. The existence of a human pituitary hormone known as FMH is yet to be established. The ensuing ketosis associated with fat metabolism serves not only as an indicator (via Ketostix) that FMH is working, but also to "sneak" calories out of the dieter's body as these incompletely metabolized end-products of fat metabolism.

Does The Diet Work?

Dr. Atkins claims it does, so did Stillman,[2] Taller,[3] and the others.[4,5] One of the questions the AMA Council on Foods and Nutrition asked was, "if such diets are truly successful, why then do they fade into obscurity in such a relatively short period of time, only to be resurrected some years later in slightly different guise and under new sponsorship. Moreover, despite claims of universal and painless success no nationwide decrease in obesity has been reported." [7]

Mechanism of Weight Loss

For any weight reducing regimen to be successful caloric intake must be decreased or caloric output increased. Increased caloric output in the form of mechanical work, exercise or heat production is not part of Atkins' diet, although increased caloric output in waste, i.e., ketonuria, is. However, maximum urinary ketone excretion is 20 grams/day, with exhaled acetone adding 1 gram/day. The caloric value of ketones is 4.5 calories/gram so that only 100 calories/day can be lost as ketones. Since one pound of fat is equivalent to 3500 calories, it would take more than a month to lose a pound.

Does decreased caloric input explain the success of this diet? Anorexia often accompanies ketosis. High fat diets, by delaying gastric emptying, may provide satiety. In one study of six obese persons on a LCHFHP diet all subjects lost weight.[8] Compared to their caloric intake on their regular diet all subjects showed a reduction in calories by 13 to 55% on the LCHFHP diet. Although unlimited fat was allowed, none of the subjects ate more fat; and half showed a significant reduction in fat intake. It can be concluded that weight loss on such diets is principally due to the consumption of fewer calories. When people restrict their carbohydrate intake drastically, they are apparently unable to make up the ensuing caloric deficit by increasing their fat and protein content.

Potential Hazards

There are potential hazards associated with Dr. Atkins' diet. Fatigue, nausea and anorexia are common during adaptation to a diet low in carbohydrates. This was shown by the Canadian Army in World War II when emergency rations consisting entirely of dried beef and fat (30% protein and 70% fat) resulted in near incapacitating fatigue, nausea, anorexia, and dehydration.[7,9]

Dehydration may be precipitated by several mechanisms: low carbohydrate diets often induce a temporary sodium diuresis, the high fat diet causes ketosis with anorexia and ketotic diuresis, and in addition, the high protein places an extra nitrogenous solute load on the kidneys, increasing the urinary water.

Ketosis may cause significant hyperuricemia by competing with uric acid for renal tubular excretion. In patients with a gouty diathesis,

this may be sufficient to exacerbate the underlying disease. Chronic ketosis during pregnancy may adversely affect the fetus.

Perhaps the greatest danger is related to the hyperlipidemia; despite the claim that this diet, rich in cholesterol and saturated fats, lowered the cholesterol in 70% of the patients.[1] When an all-meat diet (LCHFHP diet) was examined for its effect on blood lipid levels; visible lipemia and plasma cholesterol levels as high as 800 mg.% were noted.[10] Hypercholesterolemia and hypertriglyceridemia are associated with an increased risk of atherosclerosis and coronary artery disease.

Summary

1. Dr. Atkins' diet is not a diet revolution, just a rehash of a familiar diet.

2. The rationale used to justify the diet may be without scientific merit.

3. People on such an unbalanced diet may reduce their caloric intake, thus accounting for any weight loss.

4. It is a diet with possible risk in susceptible individuals.

5. As the AMA suggests, some mechanism may be needed to protect the public from bizarre conceptions of nutrition.

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A-4 University Gardens
Charlottesville, Virginia 22901

Abt-Garrison—History of Pediatrics

"Medicine in Egypt, as Herodotus tells us, was specialized to the extent of having a doctor for every disease. At set line of treatment was prescribed, and if the patient died from any deviation from standardized practice, the physician was put to death; although in the time of Aristotle, a change of therapy was permissible after the fourth day if the patient did not improve." (pp 13, paragraph 1)

Dr. Alvin E. Conner, Manassas, who submitted the above paragraph states that "apparently PSRO and standards of practice are not new."

Medical Grand Rounds . . . .

From the Department of Medicine, University of Virginia Medical Center

Edited by

Richard E. Katholi, M.D.
John F. Kiraly, M.D.
Edward W. Hook, M.D.

Meningococcal Meningitis and Meningococcemia

Discussion by—

MERLE A. SANDE, M.D.
RICHARD P. WENZEL, M.D.

Dr. Edward Hook: During the past several months, we have seen three patients with meningococcal meningitis or meningococcemia at the University of Virginia Medical Center. These patients are residents of Nelson, Louisa, and Albemarle Counties. The occurrence of severe meningococcal infections in a community generates anxiety and uncertainty. We thought it would be a good idea to discuss these infections in depth. The patient will be presented by Dr. William Hager.

Dr. William Hager: This was the first University of Virginia Hospital admission for this 15 year old white female from Charlottesville. The patient was admitted through the Emergency Room on April 20, 1973, with the chief complaints of abdominal cramps, nausea, and rash. She was well until 10 days before admission when she had the onset of rhinorrhea, sore throat, weakness and a temperature of 38° C. The patient visited her local physician and received an intramuscular injection. Two days prior to admission she noted increasing weakness, anorexia, abdominal cramping, diarrhea, chills and temperature 39° C. The evening prior to admission, the patient complained of sore throat, experienced several chills, and vomited. She developed a deep reddish-purple rash over the arms and legs which spread to the trunk. She had no history of tick bites, and no family members or friends were known to be ill. Physical examination revealed a pale, well-developed female complaining of a headache. She was lethargic and oriented. BP 100/60, P 120 and regular, R 20 and shallow, T 37.9° C. The skin showed 30-35 petechial lesions over the arms, legs, and trunk. Lesions were not noted on the palms or soles. There were conjunctival and palatal petechiae. The right tympanic membrane was injected. The optic fundi were normal. The heart had a regular sinus rhythm with no murmurs, rubs or gallops. Pulses were strong. There were no focal motor, sensory, or cranial nerves deficits. Coordination was normal.

Pertinent Laboratory Data: Hematocrit was 35%. White blood count was 27,600 cells/mm^3 with a left shift. Electrolytes were normal except for a CO_2 combining power of 21 mEq/liter, BUN was 29 mg per 100 ml, PO_2 80 mm Hg, PCO_2 24 mm Hg, and pH 7.52 on room air. Prothrombin time, partial thromboplastin time, fibrinogen and platelets were normal. A lumbar puncture revealed an opening pressure of 305 mm CSF and a closing pressure of 280 mm CSF with cloudy yellow fluid. There were 2,000 white blood cells and 400 red blood cells per mm.^{3} Ninety percent of the leukocytes were polymorphonuclear leukocytes. CSF protein was 173 mg per 100 ml and glucose was 54 mg per 100 ml with a serum glucose of 100 mg per 100 ml. The gram stain of the CSF revealed many gram-negative diplococci; none were intracellular. Cultures of the cerebral spinal fluid, blood, and nasopharynx grew Group C *Neisseria Meningitidis.*

Hospital Course: Within minutes of admission, the patient became more lethargic and

complained of severe headache and stiff neck. Blood pressure fell to 80/50 and the pulse became thready. The patient received 5 million units aqueous penicillin G by intravenous drip in the first 25 minutes and had a generalized seizure. The blood pressure returned to 100/70 with intravenous fluids and her sensorium cleared after eight hours of hospitalization. On the second hospital day, the patient developed chest pain, a pericardial friction rub, and an S_4 gallop. Cardiac silhouette was noted to be increased on chest x-ray. The patient became afebrile on the seventh hospital day and remained so for the remainder of her hospitalization. She received 20 million units of penicillin a day by constant intravenous infusion for 11 days. The Health Department was notified.

Dr. Hook: Dr. Hager, do you know the antibiotic sensitivity of the meningococcal strain?

Dr. Hager: This was a Type C strain sensitive to penicillin and resistant to sulfonamide.

Dr. Theodore Keats (radiologist): The admission chest film shows a normal cardiac silhouette. Although there is no evidence of a pleural effusion in the frontal film, the lateral suggests a fluid accumulation at the base. On the second hospital day the cardiac silhouette was grossly enlarged, and there was more fluid at the left lung base. On the fourth day the heart was larger than before in its transverse dimension and an infiltrate was seen at the left base. The isotopic scan demonstrated a pericardial effusion. Later films show the cardiac silhouette diminishing in size. The final film showed a more normal cardiac configuration, but there still may have been some fluid at the base.

Dr. Hook: The patient is here; she still has a few cutaneous lesions even though it is two weeks since the onset of her illness. Some of the hemorrhagic lesions underwent necrosis. What bothered you the most before you came to the hospital?

Patient: My head.

Dr. Hook: Did any of your friends in school or any members of your family have sore throats or illnesses with fever during the last several weeks?

Patient: No, sir.

Dr. Merle Sande: Did you have any specific pain in your joints, particularly in your knees, elbows or ankles?

Patient: All over, just all over. I ached!

Dr. Sande: Did you have pain in your palms or your soles?

Patient: No.

Dr. George Moore: I understand that you were treated by a physician two weeks before entering the hospital. Do you recall what you were treated with?

Patient: Penicillin.

Dr. Hook: We obtained the history that she had received an injection prior to coming into the hospital. It was difficult to document the nature of that injection but she thinks it was penicillin. Are there any other questions? If not, Dr. Merle Sande will discuss the pathophysiology and treatment, and Dr. Richard Wenzel will discuss the epidemiology of meningococcal disease.

Discussion

Dr. Sande: This patient demonstrates a classical picture of the presentation, course, and complications of meningococcal disease. I would like to emphasize that survival is based on early recognition, immediate initiation of appropriate therapy, and anticipation and correction of the complications of the disease.

The spectrum of meningococcal disease starts with the nasopharyngeal carrier state (Table I). During epidemics the carriage rate of *Neisseria meningitidis* may approach 80% in an involved population such as military recruits. Of these carriers, only an occasional person will develop serious systemic meningococcal disease. Epidemics usually occur in the spring and frequently occur among children

TABLE I

The Spectrum of Meningococcal Disease

1. CARRIER STATE
2. UPPER RESPIRATORY INFECTION
3. BACTEREMIA
   - SELF-LIMITED
   - METASTATIC TO MENINGES, LUNGS, HEART VALVES
   - PROGRESSIVE INTRAVASCULAR INFECTION

and young adults living under crowded conditions. An upper respiratory tract infection may precede systemic meningococcal infection by three to seven days. The prodrome may be caused by the meningococcus itself, but in the military recruit population it may be the result of adenovirus (Type 4 and 7) infection. Beta streptococcal infection has also been associated with meningococcal nasopharyngeal colonization.

Blood stream invasion by the meningococcus develops from nasopharyngeal infection. The bacteremia may occasionally be self-limited, or it may be progressive and disseminate to a metastatic focus, most commonly the meninges. In this event the symptoms and signs are those of purulent meningitis with fever, headache, stiff neck, confusion, nausea, vomiting, and spinal fluid findings of purulent meningitis.

The most devastating form of meningococcal infection is progressive intravascular infection, meningococcemia, where the organism multiplies within the blood stream or at an intravascular focus. The typical clinical picture of meningococcemia begins suddenly after three to seven days of upper respiratory tract symptoms with marked pyrexia, chills, severe myalgias, profound weakness, and often headache, nausea or vomiting. Patients may experience hyperalgesia of the soles and palms.

The characteristic feature of meningococcemia is the rash which is most likely related to a diffuse vasculitis. The earliest rash is a fleeting maculo-papular eruption which blanches on pressure; the lesions may rapidly become petechial and then fail to blanch on pressure. The development of petechiae may be the first reliable sign that the patient has meningococcal disease, since the other symptoms are less specific and occur with various viral or bacterial infections. The petechiae may become ecchymotic, or with disseminated intravascular coagulation more diffuse and extensive bleeding may occur.

The significance of petechiae may be difficult to establish in some patients. If the patient has been vomiting, petechiae may appear in the distribution of the superior vena cava as a result of increased intrathoracic pressure. Petechial lesions are also a prominent finding in Rocky Mountain Spotted Fever, a disease relatively common in Virginia. Petechiae may be found in the dependent areas of the lower extremities in otherwise normal individuals. Also, certain viral infections (ECHO and Cocksackie) may lead to an increase in capillary fragility and scattered petechiae.

The ecchymoses in meningococcemia may have irregular shapes, a finding which was present in this patient. Pustular petechiae may also occur but are much more characteristic of gonococcemia. Areas other than skin likely to demonstrate petechiae are the sublingual region, conjunctivae, and sclerae. By carefully scraping the surface of a petechial lesion with a scalpel and gram staining the exudate, one may find the organisms. A positive smear will aid in establishing a definitive diagnosis very early. However, smears are frequently negative and are not helpful in excluding the diagnosis.

Another common manifestation is polyserositis, usually arthritis. The knee joints are most frequently involved followed by wrists, elbows, and ankles. Synovial fluid will usually contain the organism early in the course of the disease, but after therapy a sterile effusion may accumulate. Purulent pericarditis is a rare complication, but a sterile pericardial effusion is not uncommon later in the course of the disease.

This patient's white count was 27,000 cells per mm^3; this is not unusual as the WBC is frequently quite high in serious meningococcal disease. Leukopenia is a poor prognostic sign as in other cases of bacteremia. Bacteria may occasionally be found within PMNs on a Wright stained smear of the buffy coat. In fact, a monolayer of this patient's leukocytes was examined on admission using a technique described by Powers and Mandell,[1] and intracellular gram-negative diplococci were identified.

When there is evidence of meningococcemia or meningococcal meningitis, the anti-

biotic therapy of choice is penicillin. Some feel that it may be important to achieve high CSF levels quickly. Since penicillin enters the CSF by passive diffusion the rapid administration of a large dose of penicillin intravenously will result in high CSF concentrations. This patient received five million units intravenously in 25 minutes assuring high antibiotic levels. If the concentration of penicillin G in the CSF reaches 10 ug/ml or greater, seizures are common.[2] This patient's seizure was probably related to the penicillin because of the large initial dose and the temporal relationship to the administration of penicillin. In meningococcemia or meningococcal meningitis we recommend penicillin doses of three million units given slowly over the first 30 minutes followed by 20 million units per day by constant intravenous infusion for about 10 to 14 days (Table II). If the clinical course is uncomplicated, the patient usually will be afebrile within three or four days. This patient's pericarditis may have been responsible for the persistent fever. If the patient gives a history of allergy to penicillin, chloramphenicol is the drug of choice. Cephalothin cannot be used as an alternative agent. Meningococcal meningitis has developed while patients were receiving cephalothin[3] and failures with this drug have been reported. Sulfonamide was considered the drug of choice in the past and was extremely effective in eradication of the carrier state and in treatment of severe meningococcal infections. Most of the strains (particularly Group C) responsible for meningococcal disease today are resistant to sulfonamides. Sulfonamides cannot be used for therapy unless it is known that the organism is sensitive.

TABLE II

Antibiotic Therapy	
Penicillin G:	3 million units intravenously over 30 minutes
	20 million units per day by constant intravenous infusion for 10-14 days
Chloramphenicol	1 gm Intravenously every 6 hours for 10-14 days if patient is allergic to penicillin
Antibiotic Prophylaxis	
Sulfadiazine	—500 mg by mouth four times daily for 4 days (if organism is sensitive)
Rifampin	—600 mg by mouth one time daily for 4 days
Minocycline	—100 mg by mouth two times daily for 4 days

Many of the features of disseminated meningococcal disease are apparently the result of release of endotoxin from rapidly multiplying organisms. Endotoxin is a mixture of lipopolysaccharides that makes up part of the cell wall of many gram-negative bacteria. Endotoxins have several potent biological activities. Endotoxin will activate leukocytes to release endogenous pyrogen which acts on the hypothalamus to produce fever. The leukocytes will also release lysosomal enzymes that may damage vascular endothelium and cause thromboses in small vessels resulting in vasculitis. Endotoxin will activate factor XII (Hagemen factor) and the clotting cascade, resulting in disseminated intravascular coagulation (DIC). Activation of Hagemen factor may also lead to activation of the kinin cascade. Kinins are vasoactive polypeptides that cause vasodilatation, yasoconstriction and increased vascular permeability. Their cumulative effect may cause pooling and shunting of blood with subsequent hypovolemic shock, tissue hypoxia, and lactic acidosis. When combined with antibody, endotoxin may activate the complement cascade via the alternate pathway. The components of the complement system have various biological properties including induction of platelet aggregation, unmasking of platelet factor III, and release of histamine and serotonin which potentiate disseminated clotting.

Disseminated intravascular coagulation is one of the more dramatic complications of meningococcemia (Table III). Although it is difficult to find data in the literature, the incidence of DIC in meningococcemia is suspected to be around 10-20%. Certainly DIC is much more common in meningococcemia than in sepsis caused by other gram-negative bacteria.

There are a number of clinical parameters that suggest DIC as a complication; the most important one is bleeding. Bleeding may occur at sites of intravenous or intramuscular injections, or be manifest as epistaxis, hemoptysis, or hematemesis. The occurrence of these signs should raise the suspicion of disseminated intravascular coagulation and lead to the performance of certain laboratory tests. Prothrombin time, partial thromboplastin time, and fibrin split products will increase, and the platelets and fibrinogen will decrease. When the diagnosis is established by these laboratory tests and when there is evidence of bleeding the therapy of choice is heparin. Heparin therapy is controversial since there are no well controlled studies on the influence of heparin in DIC. A controlled study in children with gram-negative bacteremia and evidence of abnormal clotting parameters revealed no difference in mortality in the group receiving heparin, but the clotting parameters returned to normal faster in the heparin-treated patients.[4] Heparin was not indicated in the patient under discussion today since there was no evidence whatsoever of DIC. If she had had an abnormal prothrombin time or thrombocytopenia, we still would not have used heparin unless she had developed evidence of clinical bleeding.

TABLE III

COMPLICATIONS OF MENINGOCOCCEMIA

Disseminated Intravascular Coagulation (DIC)	ACID-BASE DISTURBANCE
SHOCK	Respiratory alkalosis
MYOCARDITIS	Metabolic acidosis
HYPOXEMIA	CNS DYSFUNCTION
Shunting	Cerebral edema
Pneumonia	Focal vasculitis
Pulmonary edema	Hypoperfusion
INAPPROPRIATE ADH	Hypoxemia
POLYSEROSITIS	Acid-Base imbalance
Arthritis	Hyponatremia
Infectious	Seizures
Immune	Cranial nerve palsies
Pericarditis	Impaired Intellectual Function
Infectious	
Immune	

Another major complication of meningococcemia is shock. One feature which is helpful in detecting shock in meningococcemia is a change in sensorium. Initially, the patient may be warm and flushed secondary to fever and cutaneous vascular dilatation; but later a cold, clammy state with peripheral cyanosis may be seen. The therapy of shock in meningococcemia is the same as in other forms of shock—which is correction of the underlying cause of the shock and intravascular volume expansion. Volume expansion usually requires plasma or saline. Fluids should be given until the patient demonstrates evidence of adequate perfusion with clearing of the sensorium and establishment of adequate urine output or until the central venous pressure (CVP) begins to rise. It is extremely important to follow the CVP closely because a rapidly rising pressure may indicate heart failure. Heart failure is frequently due to myocarditis and its manifestations may be only a quiet S_3 or S_4 gallop. Various reports list the incidence of myocarditis as 18-78%.[5,6] With aggressive volume expansion it is easy to overload the circulatory system and produce pulmonary edema. Dyspnea, rales, cardiomegaly, an S_3 gallop and increased CVP may suddenly appear during treatment. When this occurs we initiate isoproterenol (Isuprel) therapy (2 to 3 mg in 500 ml of 5 per cent glucose in water) with a slow intravenous drip. Isoproterenol may lead to arrhythmias, and patients receiving this drug should be monitored carefully.

Acid-base disturbances are common. Early in the course, the patient will usually demonstrate a slight respiratory alkalosis. This patient's pH was 7.4 with a pCO_2 of 22 mm Hg (normal 40 mmHg). One would have expected to see a pH of 7.5 with a pCO_2 of 22. Therefore, it appears that she had an underlying metabolic acidosis, which is also common in this syndrome. We recommend giving sodium bicarbonate as soon as acidosis is detected.

This patient also had pneumonitis, a complication which may be seen in meningococcemia. Hypoxemia is common in patients with meningococcemia and may result from pneu-

monia, heart failure, or intrapulmonary shunting (a condition that may be aggravated with isoproterenol). If the patient is hypoxic, oxygen should be administered. Some patients may require assisted ventilation because of profound hypoxemia.

Inappropriate antidiuretic hormone (ADH) secretion with hyponatremia has also been reported. When hyponatremia is severe, it may result in altered consciousness and major motor seizures.

The management of patients with meningococcemia is complex and requires close monitoring of a large number of clinical and laboratory parameters. An up-to-the-minute flow sheet listing vital signs, CVP, urine output, hematocrit, platelet count, clotting factors, blood gases, electrolytes, BUN and therapy, including exact volume of fluids, is recommended. This will allow the clinician to detect subtle trends in the patient's course and help him to predict and prevent potentially fatal complications.

Dr. Richard Wenzel: A review of the epidemiology of meningococcal disease reported in the United States from 1920-1965 indicates a background rate of at least 2,000 cases of meningitis or meningococcemia yearly, with epidemics at 10-year intervals.

Meningococcal strains are divided into several serogroups on the basis of differences in the polysaccharide capsules. Group A strains have been responsible for most of the past epidemics of meningococcal disease, while historically the B strains have accounted for the background rate. Since 1965 the Group C organisms have emerged as the major cause of meningococcal disease. In the early 1960's, sulfonamide-resistant strains began to emerge as a cause of meningococcal disease. Now over 90 per cent of A, B, and C strains are sulfonamide resistant, both in the civilian and military communities.

The relationship of severe disease to the overall carriage rate has been studied on a military base by culturing groups of asymptomatic recruits and following them longitudinally.[7] When the overall carriage rate was the lowest, cases of meningitis first appeared. Yet, when the carriage rates were fairly high, no cases were seen. The study indicated that one can observe cases, in fact epidemics, with a very low overall carriage rate.

Factors influencing host susceptibility to meningococcal infection are important. It has been shown that bactericidal antibody will protect people against meningococcal disease.[8] The prevalence of the antibody is lowest in babies from six to 24 months, and this correlates well with the high incidence of serious meningococcal infection in that age group. It is now known that the bactericidal antibody of the IgG fraction of the mother does cross the placenta to protect babies up to the age of about six months. In addition, a prospective study showed that 94% of military recruits developing meningitis had no bactericidal antibody against the infecting strain at the onset of illness.[8] This is further evidence that the bactericidal antibody provides significant protection and that without it, we are at risk of developing disease if we acquire a virulent strain.

Obviously not all who acquire meningococci in the nasopharynx develop clinical illness. This may relate to differences in virulence. Studies by several investigators have shown that within specific polysaccharide serogroups, there are sub-types with varying degrees of invasiveness.[9,10,11]

For a long time attempts have been made to prevent the meningococcal carrier state. Many groups have tried to use antibiotics to eliminate the carrier state. Such therapy has been unsuccessful despite the fact that some of these drugs are very effective in therapy of disease.[12] In 1968, Leonard Devine suggested that perhaps the reason penicillin and a number of other antibiotics are ineffective in terminating the meningococcal carrier state is because they do not enter the nasopharyngeal secretions where the meningococci are carried.[14] The ideal drug would be a small, lipid soluble, non-polar molecule loosely bound to protein which could freely leave the blood stream. Penicillin, in fact, is a polar,

lipid insoluble molecule which does not get into the oral secretions. The number of drugs that get into saliva and tears in concentrations sufficient to inhibit the meningococcus is small. Sulfanilamide is a small molecule and is very effective in getting into the saliva. Rifampin is a lipid soluble drug, and Devine predicted that it would be effective in reducing meningococcal carrier rates because it gets into saliva in high concentration.[13,14] Minocycline which has been shown effective in reducing the carrier rate does get into the saliva in low concentrations. A trial to determine the effect of rifampin on the carrier state was performed at Camp Lejeune.[13] It was found that the carrier rate after treatment with rifampin for four days decreased from about 60% to 10% before slowly rising again to parallel the untreated controls.[13] Rifampin resistant strains were acquired in about 10% of the carriers subsequent to this treatment.

Another approach to the control of this disease is use of vaccine. Artenstein and others have given the polysaccharide of Group C meningococci as a vaccine and induced a 95% sero-conversion rate with at least a four-fold serum antibody rise.[15,16] The rate of illness in vaccinees was one-tenth that in non-vaccinees. In addition, the carriage rate was reduced in the vaccinees to one-third to one-half of their controls.

Recent studies show that local nasal antibody occurring after natural disease or carriage may have a role in protection.[17,18] Further modification of host resistance may offer hope for the future.

Dr. Hook: A problem which often arises is the management of people exposed to a patient with a meningococcal infection. Dr. George Moore, Director of the Charlottesville-Albemarle Health Department, is with us today. George, would you like to comment on this problem?

Dr. Moore: The physician should immediately report a case of meningococcal meningitis or meningococcemia to the Health Department so we can do household surveillance of contacts. We do nasopharyngeal cultures on close contacts and we order a sensitivity test and serotype of the organism. Serotyping may be important in demonstrating a linkage between cases which occur within the population. If the organism is sensitive to a sulfonamide, use it for prophylaxis because it may be better than rifampin. It takes only 0.5 mg of a sulfonamide every six hours for four days to eradicate the carrier state in adults. Rifampin does evoke resistant strains, and rifampin is also much more expensive than sulfonamides.

Dr. Hook: There is no uniform opinion regarding prophylaxis for contacts of patients with meningococcal disease. Some physicians experienced in management of meningococcal infections would say that antimicrobial prophylaxis is not necessary, even for close contacts, if the infecting strain is sulfonamide-resistant. They would recommend that contacts be informed that they had been exposed and that they should seek medical attention in the event of illness.

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Public Health ....

Donation of the Body for Scientific Study

DAVID K. WIECKING, M.D.

Increasing public interest and concern is becoming evident for efficient and salutary utilization of the human body and its parts after death. The beneficial purposes of both organ transplantation and anatomical study are dependent upon an adequate supply of anatomical material. Study and dissection of the human cadaver is part of the curriculum in the teaching of anatomy and surgery in medical and other healing-arts schools. Old strictures on the disposition of the dead body have been modified by the enactment of laws which permit beneficial scientific utilization of the body after death.

DAVID K. WIECKING, M.D., LL.B., *Chief Medical Examiner, Commonwealth of Virginia.*

Unclaimed Body for Anatomical Study

Public apprehension over the methods which were employed to procure cadavers during the formative years of medical education in the 18th and 19th centuries led to the enactment of statutes designed to legalize a proper

and orderly method of procurement. It was evident that medical science was going to require cadavers for dissection and unless the State acted to pre-empt the procedures, the private-enterprise body-traffickers and grave-robbers would continue to flourish. The various State legislatures under the guidance of the medical profession enacted statutes enabling the medical schools and accredited practitioners to accept unclaimed dead bodies which were properly and legally procured. An "Anatomical Board" was created and charged with the responsibility of developing and enforcing procedures for the lawful and orderly procurement of bodies for scientific purposes. The Boards were typically composed of physicians or related health-care professionals and were administratively either an independent agency of State government or affiliated with the State Health Department or medical school. Typically the Board was composed of the Professors of Anatomy in the State's medical schools. The Board was usually enjoined not to spend any State monies, but rather to operate as a non-profit clearinghouse supported by the medical schools or other agencies which utilized the cadavers.

In the earlier years of this century the most abundant sources of bodies for scientific study were the many almshouses and public institutions in the State. Perhaps because of difficulties in communication and transportation, or because of separation of families and emigrant or wandering family members, or because of the lack of development of the insurance industry and of the Governmentally-administered death-benefit programs, or other reasons, there was a relative abundance of unclaimed bodies in the morgues of the various institutions. The statutes directed that the superintendent of the institution notify the Anatomical Board of an unclaimed body and deliver the cadaver to the Board's agent without any fees or payment being involved (except for transportation and embalming). The next of kin of the deceased was given the opportunity to come forth and claim the body if he wished; otherwise the body became the property of the Board for its purposes of scientific study. Provision was also made to assure proper disposition of the residual remains after the scientific studies were completed. The Boards devised various procedures by which to apportion the unclaimed cadavers to the anatomy departments and to physicians and surgeons who needed them for dissection. All in all, the statutory system seems to have worked satisfactorily over the years, and few people seemed upset that the Anatomical Statutes gave the State a monopoly over this rather unattractive business.

Virginia has a centralized form of Anatomic Board in that the functions of the Board are vested in one administrative officer, the State Health Commissioner (32-354 through 32-364, Code of Virginia). The Commissioner delegates the actual administrative duties to the Director of the State Anatomical Program, which is administratively within the Medical Examiner Division of the State Health Department. The Director of the Anatomical Division is a licensed embalmer and funeral director, and is a full-time State employee. He carries out the physical duties of transporting, embalming, storing, accounting for, and dispensing the cadavers. He also has charge of making arrangements for the donation of bodies and oversees the administrative tasks occasioned by inquiries from persons interested in donating their bodies to science. The Anatomical Division serves as the single collection point and clearinghouse for cadavers in the State. It is physically housed in a separate morgue with body storage facilities in the Medical Examiner building in Richmond. The medical schools do not have a direct role in the everyday administration of the Division, although their desires are of course sought and heeded as much as possible within the limits of the number of available cadavers. The schools are the principal clients for the Division's services. The Division operates at no expense to the State, since the various schools are charged a fee for each cadaver used, sufficient to cover a pro-rata share of the Division's operating budget. Donors are not paid

All of these mammals, except one, can synthesize vitamin C

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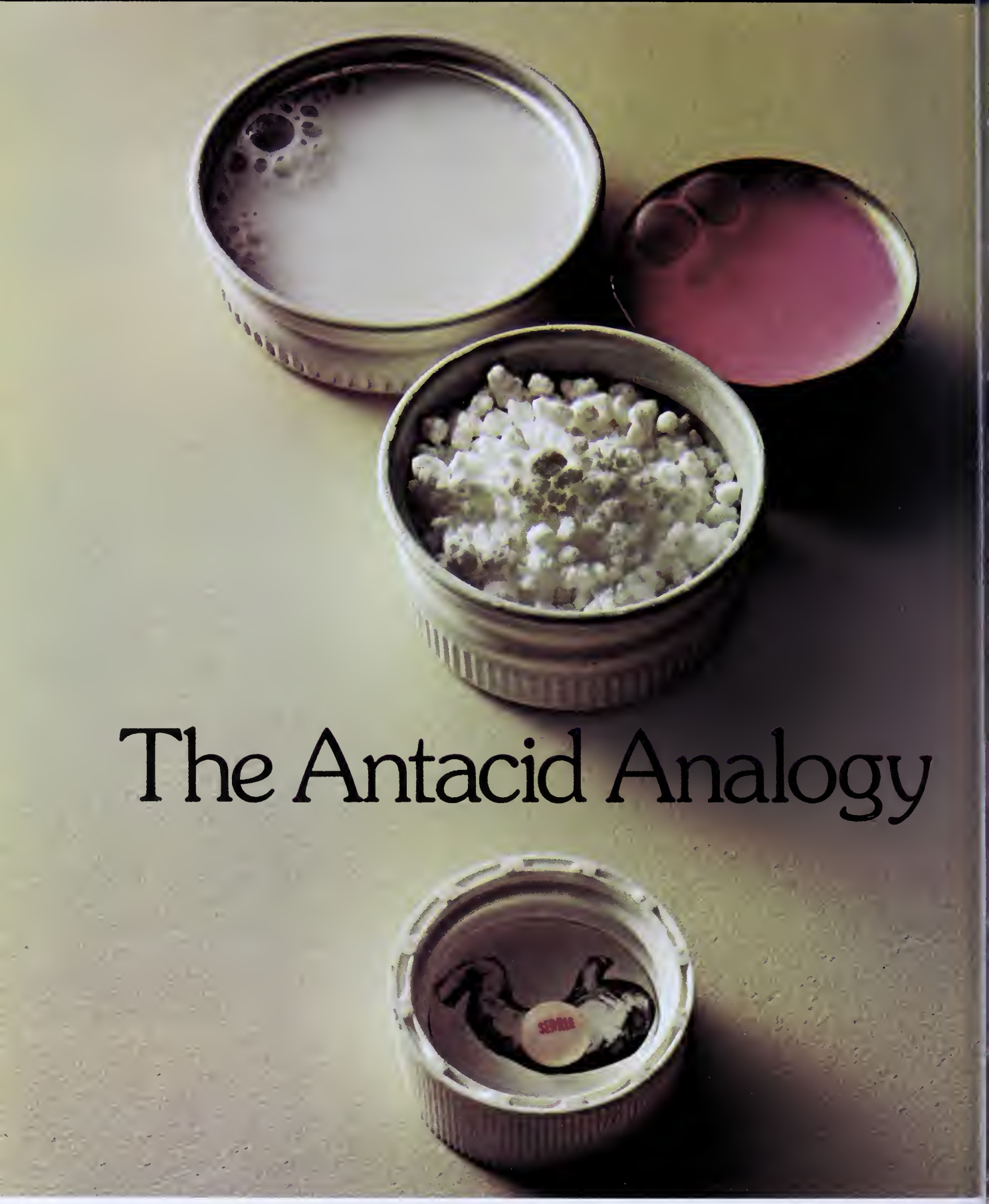

Indications: Pro-Banthine is effective as adjunctive therapy in the treatment of peptic ulcer. Dosage must be adjusted to the individual.

Contraindications: Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflux esophagitis, or unstable cardiovascular adjustment in acute hemorrhage.

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Fever and possibly heat stroke may occur due to anhidrosis.

In theory a curare-like action may occur, with loss of voluntary muscle control. For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted.

Diarrhea in an ileostomy patient may indicate obstruction, and this possibility should be considered before administering Pro-Banthine.

Precautions: Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

Overdosage should be avoided in patients severely ill with ulcerative colitis.

Adverse Reactions: Varying degrees of drying of salivary secretions may

Therapeutic comparisons in peptic ulcer.

Antacids have only one mode of action to relieve ulcer pain...

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Antacids:

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Pro-Banthine:

Pro-Banthine suppresses gastric acid secretion. The antisecretory properties of Pro-Banthine are well established. By effectively blocking vagotonic impulses Pro-Banthine suppresses gastric secretion to reduce both total and free acid.

Pro-Banthine helps relieve pain. Pro-Banthine relieves ulcer pain by reducing gastric secretion and the motility and spasm of the gastrointestinal tract.

Pro-Banthine reduces acidity without subsequent acid rebound. The capacity of Pro-Banthine to reduce the secretion of total and free acid in the stomach has been demonstrated in scores of studies. None has demonstrated any significant evidence of acid rebound.

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*Innes, I. R., and Nickerson, M., in Goodman, L. S., and Gilman, A. (editors): The Pharmacological Basis of Therapeutics, ed. 4, New York, The Macmillan Company, 1970, p. 537.

Pro-Banthine complements and enhances the action of antacids.

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occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

Dosage and Administration: The recommended daily dosage for adult oral therapy is one 15-mg. tablet with meals and two at bedtime. Subsequent adjustment to the patient's requirements and tolerance must be made.

Pro-Banthine P.A.—Each tablet of Pro-Banthine P.A. (propantheline bromide) contains 30 mg. of the drug in the form of sustained-release or timed-release beads; on ingestion about half of the drug is released within an hour and the remainder continuously as earlier increments are metabolized. Thus the result is even, high-level anticholinergic activity maintained all day and all night in most patients with only two tablets daily. Some patients may require one tablet every eight hours.

The contraindications and precautions applicable to Pro-Banthine 15 mg. should be observed.

How Supplied: Pro-Banthine is supplied as tablets of 15 and 7.5 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg.

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Supplied: **Tablets:** 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded in bottles of 100, 500, and 1000.

Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, U.S.P., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent.

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for their body. The Anatomical Division arrangement permits a centralized cadaver collection, processing, and distribution system which is not theoretically amenable to the competing pressures of several medical schools' anatomy departments. It also has the practical advantage of providing a readily accessible place to which hospitals and other agencies can dispatch unclaimed or donated bodies.

Donated Body for Anatomical Study

In recent years the public interest in donating a portion or the totality of a body for either transplant or scientific study has significantly increased the number of cadavers being donated in relation to those coming as "unclaimed". The Uniform Anatomical Gift Act (32-364.3 et seq, Va. Code) and related statutes have clarified the procedures by which one can donate his own body, or his surviving kin can donate it.

RECEIPT OF DEAD BODIES FOR SCIENTIFIC STUDY—VIRGINIA

State Anatomical Division, Richmond

Source	Bodies Received			
FY:	1969-70	1970-71	1971-72	1972-73
1. Unclaimed for Burial	209	158	104	124
2. Donation	10	36	50	33
Total	219	194	154	157

The number of intact bodies being obtained through the donation procedure in recent years has been climbing, and the number coming from an unclaimed status has been steadily declining. Unfortunately, the donations have not as yet been making up for the decreased number of unclaimed bodies, and the total number of intact cadavers becoming available for anatomic study each year has been slowly diminishing. The reasons for the respective trends are probably several: the greater ease and efficiency of contacting distant relatives of the deceased, the more efficient identification and tracing procedures of modern law-enforcement agencies, and, probably most important, the ever-widening coverage of Social Security, Medicare, and Veterans Administration policies and the broader spread of insurance in general.

It is hoped that as the future unfolds, there will be more emphasis on donation of the body for scientific study. The newspapers and other media have already been a powerful source in helping shape the public's increasingly favorable attitudes toward the scientific use of the body and its parts. The medical schools and related specialties would seem to have an interest in fostering donations, especially in view of the increasing size of incoming classes of students at the various schools of healing arts. The public will be the beneficiaries through the increased numbers of physicians, dentists, nurses, and other healing-arts specialists who will be properly and scientifically trained utilizing actual anatomical material. The Anatomical Board provides collection, preparation, and other administrative services. Enthusiastic public support by the medical community and the medical, dental, and allied schools is necessary, so the citizenry may understand the importance of the donation programs and the ease with which one can donate his body to medical science.

Inquiry concerning donation of one's body should be addressed to:

State Anatomical Division
9 North 14th Street
Richmond, Virginia 23219

Medicare—Part B . . . .

Utilization of Physician's Services

CURTIS J. KELLY, JD.

The Medicare law excludes from coverage any expense for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member. One of the responsibilities placed on the Medicare Carrier is to apply safeguards against unnecessary utilization of services furnished to individuals entitled to Part B benefits.

There are situations which strongly suggest overutilization of a physician's professional services. One of these occurs in nursing homes providing custodial care. Most nursing home patients have stabilized chronic illnesses which may respond to palliative treatment but are not curable. Except during acute exacerbation of their chronic affliction or superimposition of an acute illness or injury, periodic observation by a physician at infrequent intervals to observe the patient's status and the response to supportive measures and to make necessary changes in the standing orders is all the physician's services ordinarily require.

Informed opinion estimates that the frequency of such periodic observations should be about once a month. Nevertheless, there are instances where a physician visits all patients in given nursing homes on a weekly or daily basis. Such visits are generally welcomed by the patients as a break in their humdrum routine during which they can gain the attention of another person. Physiologically, these visits are generally beneficial to the patient's morale. However, it can honestly be asked whether this benefit is bona fide physician's service which is reasonable and necessary for the treatment of the patient's illness or injury. Must an individual with the special skill of a physician make these frequent personal visits or could they be conducted as well by a clergyman, nurse, social worker, or even by a sympathetic and understanding friend?

Unless one can unequivocally state that the special skills of a physician are required and that no one with lesser skills can perform this service, and that the service rendered is reasonable and necessary for the treatment of the patient's illness then the visit does not qualify as a reimburseable Medicare benefit. Of course some nursing homes may promise patients daily visits by a physician. In such cases, the visits are a nursing home expense unless a visit to a particular patient qualifies as a Medicare benefit.

Some nursing home patients may require daily physician visits, e.g., seriously ill cases. These are allowable as a Medicare benefit. Generally, however, the seriously ill nursing home patient is removed to a hospital where more adequate facilities are available, e.g., oxygen for pneumonia or acute cardiac decompensation or around-the-clock nursing care or monitoring equipment for cardiac arrhythmias. It would not appear reasonable to assume that all patients in a nursing home were so seriously ill that they require the professional attention of a physician on a daily or weekly basis. Thus, on this basis, charges for weekly or daily visits to all patients in a nursing home must be excluded from Medicare payment as being neither reasonable nor necessary for the diagnosis or treatment of illness or injury.

Where the unusual patient is encountered that requires frequent physician care, the medical need and necessity for these visits should be adequately documented on the physician's bill.

(*Continued on page* 402)

Woman's Auxiliary . . . .

WASAMA—They Will Be Your Auxiliary

Just seventeen years ago, the Woman's Auxiliary to the Student American Medical Association came into existence. WASAMA now claims five thousand members and eighty chapters at medical centers across the country. These members are wives of medical students, interns, residents and physicians in fellowships and in the Armed Forces.

This year again, WASAMA will join with the Woman's Auxiliary to the AMA to further interest in the paramedical fields. Explo 70's—our joint project in health manpower—will spread the word and tell it like it is to Junior and Senior High School students across the country. The 250 job categories in the health industry will number over 500 in five years. There is a place for each of them and we cannot afford to overlook this program. While the practice of medicine may not kill our husbands, the lack of well trained paramedical personnel just might.

Each year WA-SAMA holds a national convention at the time and place fixed by the executive council in accordance with the time and site of the annual convention of SAMA. The 1973-74 meeting was held in Dallas, February 28-March 3.

Each chapter is asked to send delegates to the annual convention. Each chapter is allowed two official delegates. However, any member is cordially invited to attend. At the convention all business of WA-SAMA not otherwise specifically provided for in the bylaws is transacted. The general officers are elected at the annual convention.

The convention provides an opportunity for representatives from the local chapters to meet and know members from chapters all over the country.

The convention program, in addition to the transaction of business and election of officers, includes a mutual exchange of ideas; development of new programs and projects; round-table discussions and clinic sessions which provide the delegates with new information for the purpose of educating each individual chapter and member to the problems of medicine and their relation to the doctor's wife; and a variety of social programs.

WASAMA needs you and your support in many ways—on the local level and on the national level. Keep your eye on WASAMA—in just a few years these young wives will be part of your auxiliary and in more then a few years, they will be your auxiliary.

The theme for the year "Communication Across the Nation" lends itself to communication among the members of WASAMA from national to local level, to communication with the American public on what the field of medicine is all about and to communication with our sponsoring organization.

Won't you help WASAMA to continue their progress by becoming a sustaining member. You will receive a copy of the national newsletter SPECTRUM and keep up with what auxiliary members of the future are doing today. A five dollar tax deductible donation for a sustaining membership should be sent to the national coordinator, Mrs. Joel E. Port, Box 275, Flossmoor, Illinois.

Health Manpower

Is more vital today than ever before due to the population increase with subsequent acceleration in the building of schools, hospitals etc. So many medical services for diagnosis and treatment require *skilled manpower* to operate machines and interpret data for the benefit of the patient.

The "Health Manpower" Package Programs have been distributed to the county chairman. A wealth of information for reaching the public and particularly the youth has been assembled. You should decide whatever

is most pertinent to your community needs.

The main directive this year has been "to create among youth and others a fuller understanding of the diverse opportunities for service in the health field". The Allied Medical Education Directories were distributed to high schools throughout Virginia. These books have proven very effective. If a high school in your area does not have one, please notify me and I shall be happy to arrange for one to be sent: Mrs. Hans J. Klapproth, 4200 Woodlark Drive, Annandale, Virginia 22003.

Virginia is most fortunate to have right here the Virginia Council on Health and Medical Care. They would be happy to schedule programs for your area, send brochures, advertising material and supply TV or radio spots, only for your asking! This Council has been nationally acclaimed and is supported by the Auxiliary as well as many other recognized groups.

Fairfax County

Celebrated Doctor's Day by having a gala evening for their doctors at the Kennedy Center opening with a delicious buffet and progressing to the prize winning musical "A Little Night Music". In conjunction with it all a Health and Safety Program was presented at the Tyson's Corner shopping center, March 30, which included "Danny and the Demoncycle", "Bicycle Safety" and "Personal Safety for Women".

The *tenth* "*Valentine Musicale*" was held in the home of Dr. and Mrs. C. Barrie Cook. The program featured talented members of the auxiliary and the medical society. A program "con brio" was planned and enjoyed by all.

MEDICARE—PART B—Utilization of Physician's Services

(*Continued from page* 400)

It is the objective of The Travelers Insurance Company and the desire of the Social Security Administration that all allowable Medicare benefits be paid as promptly as possible. Physicians' bills showing unusual frequency of service, or services provided over a prolonged duration of time, require extra processing information. If these bills include brief rational explanation of the exceptional services, the processing can be expedited and rapid payment effected. Medicare is liable only for the payment for medically necessary services as represented by usual patterns of care. Medicare places no limitations on vitally necessary services, but Medicare does not cover repeated visits without valid medical need.

Editorial....

The Internship Crisis in Virginia

GETTING A GOOD INTERNSHIP becomes a constant concern of the senior medical student, and rightfully so. To attain this goal he stakes his entire academic record, the good will of his teachers, his personality, everything that he is and hopes to be, on the computerized National Intern and Resident Matching Program. If all goes well, he will intern at a good hospital and become a preferred candidate for further training and an eventual career of professional prestige and personal satisfaction. If all does not go well there may be some painful reassessments.

Last year all did not go quite as well as expected. Straight medical internships, to cite one example, became extremely competitive; some fairly good students ran through all their choices unsuccessfully and ended up not matching anywhere. They were eventually placed at unfilled hospitals by the efforts of their individual deans. Rotating interns of superior caliber found themselves excluded from specialty residencies because straight interns were given first choice. Young physicians coming out of military service after two years of obligated duty found it necessary to apply to dozens of hospitals for residency positions.

A variety of societal pressures affected the odds against the individual. The ever-increasing medical school enrollments are pouring more and more graduates into the intern market each June, and the number of desirable first-year positions has not kept pace. The approaching demise of the free-standing internship has locked the first-year position in a continuum of medical education and many hospitals have pared their internships to beef up the residencies and change the pyramid into a column. And as everyone knows, physicians are getting out of the services in droves—but very few are going in. As an index of the change, in 1970 the 8,367 graduates had 1.86 positions each to choose from, but in 1973 10,391 graduates had only 1.80 positions each, a small and innocuous-looking reduction but with very appreciable impact nation-wide. In March, 1974, the situation was even worse, with several hundred more intern applicants and actually 1318 fewer positions offered.

And yet . . . the individual's dilemma may still be turned into society's opportunity, even if it comes too late for the total satisfaction of the Class of 1974. This nation needs primary care physicians—internists, pediatricians, and family physicians—which is precisely what medical students are interested in becoming. What must be done—and done swiftly, confidently, and

enthusiastically—is to enlarge our supply of good training programs to meet the demands. The American Medical Association last June called for at least half of all graduating physicians to go into primary care. Half of these—or roughly 3600—should enter family medicine programs, according to the president of the American Academy of Family Physicians.

What are the prospects for Virginia? As a State we are seriously deficient in primary care physicians, needing the immediate addition of 355 internists, 77 pediatricians, and 375 family physicians just to attain parity with existing nation-wide population ratios. Of all the factors influencing the location of a physician's practice, the most compelling is the location of his residency training program and next comes the location of his medical school. The best hope for correcting Virginia's physician deficits, therefore, depends on the provision of good training programs in primary care for at least half of the students receiving their M.D. degrees from our own medical schools.

In 1974 the Medical College of Virginia and the University of Virginia together will turn out 240 physicians, and by the AMA-AAFP formula 120 of these should go into primary care, preferably into programs at Virginia hospitals. The sad fact emerges that only 93 such positions are offered for July 1974—43 in internal medicine, 11 in pediatrics and 39 in family medicine. At the same time, approximately one-third of all Virginia internships do not match through the NIRMP and there are 36 internships (mainly rotating) which have not attracted a single graduate of an American medical school for the last four years.

Our situation clearly calls for a "mini-Flexner" person or group with the following duties:

1. Elimination of unpopular internships.
2. Replacement with new training programs in family practice, aiming at a total of at least 75 first-year positions.
3. Expansion of present training programs in pediatrics and internal medicine to provide a total of at least 75 first-year positions.
4. Legislative and financial support of the people who will organize and direct these programs, as well as support of the trainees themselves.
5. A continuing coordination of efforts to match medical school output with post-graduate training and community needs.

Governor Holton appointed a Medical Facilities Commission which is working toward these goals. That Governor Godwin will continue the functions of this group and that the physicians and educators of the Com-

monwealth will work side by side to cooperate with its activities are consummations devoutly to be wished.

John A. Owen, Jr., M.D.

University of Virginia
Department of Internal Medicine
Charlottesville, Virginia 22901

Senator Kennedy and Medicine

A YEAR OR SO AGO a physician in Northern Virginia took the writer to task, for he thought the *Virginia Medical Monthly* had been unduly harsh on Senator Edward M. Kennedy. Your Editor, who always welcomes constructive criticism, brooded over the matter for some time and finally concluded that our correspondent may have had a point. Perhaps the journal had been a little hard on young Kennedy, and possibly he was not the menace to medicine the writer had feared. Following this decision there were no further references to Teddy in the VMM, and it appeared that he, too, was less critical of the medical profession. At least we heard fewer caustic references to American medicine after hearings in Kennedy's Senate Subcommittee dealing with matters of health.

This détente continued throughout the winter, and the thought occurred to the writer that the most recent tragedy in the Kennedy family may have softened his feelings toward medicine in general and physicians in particular.

But this happy state was rudely shaken when an article captioned "What Ted Kennedy Says About Doctors" appeared in the March issue of *Physician's Management*. Joseph D. Waxberg, M.D., publisher of the magazine, stated the brief interview with the Senator was the result of repeated efforts by his representative to obtain an audience. Excerpts from the question and answer period follow:

"Just what do you have to say about the nation's doctors, Mr. Kennedy? What characterizes them?"

"Avarice, he says. Greed. 'Callous to human suffering . . . unconcerned . . . lazy'. He characterizes family doctors as 'business men very conscious of income or profit entrepreneurs who cherish their right to do business wherever, however, and at whatever prices the market will support.' "

"The doctor's concern for lining his pockets, according to Kennedy, isn't limited to high prices. If the physician needs the business, he may provide his patients with unnecessary services to pad the bill, the Senator has said,

adding: 'Many Americans are confronted with unnecessary pain and discomfort . . . and with unnecessary expenses . . . by providers who perform unnecessary services . . . Perhaps the reason so much surgery is done is the fact that there are so many surgeons and that surgery pays so well.' "

"Avarice, though, is only one of the sins doctors are guilty of, according to Kennedy. He also views physicians as insensitive to the needs of patients, saying: 'I am shocked to find that we in America have created a health-care system that can be so callous to human suffering, so intent on high salaries and profits, and so unconcerned for the needs of our people.' "

"Kennedy has also indicated he believes physicians are poorly prepared by medical schools and inadequately informed even with their own specialties, particularly in areas such as rational prescribing practices." He recently charged that 30,000 people a year die from adverse drug reactions "because too many physicians are prescribing too many drugs on the basis of too little information."

He also paid his respects to the drug industry, organized medicine, and in fact to everyone connected with the health services. There were many other quotable quotes in *Physician's Management's* article but these will suffice to indicate the leopard has not changed his spots despite his recent association with the physicians who treated his son. If these remarks had been made by almost any other individual they could have been attributed to an uninformed, biased and ungrateful person whose distorted ideas are regrettable but of relatively little consequence. Unfortunately this is not the case.

The day after this article appeared, George Gallup, in a release captioned "Kennedy still choice in 1976" reported "The Massachusetts senator is preferred by 44 per cent of rank-and-file Democrats questioned in the most recent Gallup poll. This is more than twice the support given the man named next most often, Governor George C. Wallace of Alabama, who wins 17 per cent of the vote." This means the statements attributed to Kennedy take on vastly greater significance for these are the thoughts of a man who may well be our next president.

H.J.W.

News . . . .

Calendar of Events

CONTINUING EDUCATION PROGRAMS SPONSORED BY UNIVERSITY OF VIRGINIA SCHOOL OF MEDICINE

Rational Use of Oxygen as a Drug—Langley Air Force Base—May 16, 1974.

Experimental Peer Review of the Evaluation and Treatment of Gastric Ulcer Disease—Waynesboro Community Hospital—Waynesboro—May 28, 1974.

The Art and Science of Sports Medicine—Sponsored by Departments of Orthopedic Surgery and Rehabilitation, Health and Physical Education, and Athletics—University of Virginia—Charlottesville—June 27-29, 1974.

CONTINUING EDUCATION PROGRAMS SPONSORED BY MEDICAL COLLEGE OF VIRGINIA

Child Psychiatry—Annual Spring Forum—Sponsored by Division of Child Psychiatry and Virginia Treatment Center for Children—Richmond—May 24, 1974.

Alumni Scientific Assembly—Sponsored by Department of Medicine—Richmond—June 1, 1974.

OTHER EVENTS

What's New in Pediatric Infectious Diseases—Sponsored by Children's Hospital National Health Center and George Washington University School of Medicine—Sheraton Park Hotel—Washington—May 23, 1974.

Head and Neck Anatomy—A Continuing Education Course sponsored by Department of Anatomy, School of Medicine, East Carolina University—Greenville, North Carolina—May 28-31, 1974.

Emergency Health Care Seminar—Sponsored by Kentucky Chapter, American College of Emergency Physicians—Ramada Inn—Blue Grass Convention Center—Louisville, Kentucky—May 30-31, 1974.

Seaboard Medical Association—Annual Meeting—Holiday Inn—Nags Head, North Carolina—June 13-16, 1974.

AMA Annual Meeting—Chicago—June 22-27, 1974.

Annual Congress on Occupational Health—Sponsored by AMA—Marriott Motor Hotel—Chicago—September 9-10, 1974.

Walter L. Thomas Symposium on Gynecologic Malignancy and Surgery—Duke University Medical Center—Durham, North Carolina—September 20-21, 1974.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 3-6, 1974.

American Association for Clinical Immunology and Allergy—Annual Meeting—Pier 66—Ft. Lauderdale, Florida—November 21-24, 1974.

* * * * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following members were received into The Medical Society of Virginia during the month of February:

Nils Paniagua Antezana, M.D., Washington, D. C.
Arthur Stilman Bender, M.D., Charlottesville
J. Thornton Boswell, M.D., Fairfax
Alan Brent Cohen, M.D., Hampton
Helen Dalakis, M.D., Sterling
Ludwig Fink, M.D., Fairfax
William Edward Frank, M.D., Lynchburg
Joseph Owen Hendley, M.D., Charlottesville
Philip R. Hirsh, M.D., Arlington
Ignaz P. Jarbadan, M.D., Woodbridge
William Pritchard Jordan, Jr., M.D., Richmond
Miguel G. Langebeck, M.D., Radford
Ratnakar L. Lawande, M.D., Manassas
David Wilson Marsland, M.D., Newport News
Lewis K. Martin, III, M.D., Winston Salem, North Carolina
Franklin Albert Munsey, M.D., Williamsburg
Peter Gabriel O'Dwyer, M.D., Pocahontas
Henry John Palacios, M.D., McLean
Burt William Phillips, M.D., Virginia Beach
Frank Harrison Phillips, Jr., M.D., Roanoke
Robert Frank Roth, M.D., Salem
Nalin G. Shah, M.D., Norton
Frank Brittlebank Simpson, III, M.D., Arlington
Eugene Paul Strelka, M.D., Blacksburg
John Henry Texter, Jr., M.D., Richmond
Flaviano O. Uy, M.D., Chesapeake
Gregorio C. Uy, M.D., Chesapeake

New Officers in Component Societies.

Buchanan-Dickenson Counties Medical Society—Dr. Bradley D. Berry is the new president, and Dr. Thomas J. Penn, secretary. Both are from Grundy.

Fauquier County Medical Society—Dr. John T. Hazel, Warrenton, is president, Dr. David Couk, Warrenton, vice-president, and Dr. Donald MacNay, Manassas, has been re-elected secretary-treasurer.

Franklin County Medical Society—President, Dr. F. B. Wolfe, Rocky Mount; vice-president, Dr. V. L. Lynch, II, Rocky Mount; secretary, Dr. Ralph Y. Kahn, Martinsville; and treasurer, Dr. Mohammad Riaz, Rocky Mount.

MCV Student Medical Society—A charter has been issued to this Society. David Hyman is president and Christopher K. Davis, secretary.

Dr. Richard E. Palmer,

Alexandria, has been named Chairman of the Board of Trustees of the American Medical Association. He succeeds Dr. James M. Sammons who has been appointed as Executive Vice President-designate. Dr. Sammons succeeds Dr. Ernest B. Howard who will retire early in 1975.

Dr. Mack I. Shanholtz,

State Health Commissioner, has been awarded the Virginia Lung Association's 1974 Douglas Southall Freeman Award. The Award cites his "leadership during critical decades of rapidly changing treatment of tuberculosis, and, in particular, for his cooperation with and advocacy of the ideal that the fight against lung disease must be a joint venture between government and the people."

American College of Physicians.

Dr. W. Taliaferro Thompson, Jr., Richmond, has been elected Governor for Virginia, with Dr. Edward W. Hook, Charlottesville, to serve as Governor-Elect.

Errata

Your managing editor must have had a very bad case of Spring Fever in March when preparing items for the News Notes in the April issue (page 327).

Dr. Owen (not Oscar) W. Brodie is the new president of the Westbrook Psychiatric Hospital staff.

Dr. Charles E. Davis, Jr., is from Norfolk (not Roanoke) and has been appointed as a member of the Board of Trustees of the Roanoke College.

Your managing editor apologizes for these errors but now she knows that someone does read the Monthly and she does not have to carry out her threat of publishing a blank journal to see who will notice it.

Dr. James S. Redmond, Jr.,

Lynchburg, has been named a Fellow of the American College of Radiology.

Blue Shield Reciprocity,

A three-year old program, will hit a new high in utilization beginning June 1, 1974, when nationally 2.5 million United Auto Workers subscribers come under the program. By the end of the year, Blue Shield, nationally, expects to have more than 10 million subscribers with the reciprocity benefit.

"Reciprocity is Blue Shield's answer to the problem physicians have on filing claims for services to out-of-area subscribers," according to M. Roy Battista, Vice President for Provider Relations of Blue Shield of Virginia. "When a Blue Shield subscriber presents an Identification Card with a double red arrow on it, the physician's office can then submit the claim to his local Blue Shield Plan on the claim form with which he is familiar. The claim will be processed locally, just as if it were a local subscriber; and payment will be made under Blue Shield of Virginia's Usual, Customary and Reasonable program."

Mr. Battista added that the program would be of great value in a state like Virginia with its high incidence of vacation travel. Despite the present energy problem, state tourism officials do not foresee any sizable drop in vacation travel.

Only subscribers with Usual, Customary and Reasonable Contracts are certified for Reciprocity by the various Blue Shield Plans. Nine basic benefits are included in the national program.

Surgery, including Surgical Assistant when such service is necessary and housestaff is not available.

Anesthesia

Radiation Therapy

Diagnostic X-ray, inpatient only except in relation to an accident.

Laboratory and Pathology, inpatient only except in relation to an accident.

In-hospital Medical Care

Pulmonary Tuberculosis, Mental Disorders, Drug Addiction and Chronic Alcoholism

Outpatient Emergency Care in physician's office or outpatient department of hospital.

Consultations, inpatient only.

It is again pointed out that the key to the program is the double red arrow on the Identification Card. All claims for services to out-of-area residents carrying this card are to be submitted to the Blue Shield Plan in the area where the services are rendered. They will then receive the exact same processing as claims from local subscribers.

In addition to the United Auto Workers, Blue Shield of Virginia expects to place many of its Usual, Customary and Reasonable groups under the program within the next few months, according to Robert A. Hughes, Vice President of Marketing, Blue Shield of Virginia. "This means that Virginia residents traveling in other areas will get prompt local service on their claims while away from home."

For Sale.

Irvington, Virginia, "The Green". Three bedrooms, 2½ baths, luxury condominium on fabulous Tides Inn Lodge 18 hole course. Golf, pool, tennis privileges. Fully equipped, maid service. Lounge room with bar, fireplace, patio, overlooking water. J. P. Murphy, M.D., 8218 Wisconsin Avenue, Bethesda, Maryland 20014. Phone 301-652-4470. (*Adv.*)

Obituary . . . .

Dr. Lula Woods Garst,

Catawba Sanatorium, died March 21. She was seventy-seven years of age and a graduate of the Medical College of Virginia in 1924. Dr. Garst had been a member of The Medical Society of Virginia for forty-eight years and was a member of the Fifty Year Club. She had been a staff member at Catawba Sanatorium for Tuberculosis for forty years.

Dr. Carey.

Dr. Sheldon David Carey died February 4, at the age of seventy five, after several months of declining health. Death came as the result of a myocardial infarction.

He was born in Branford, Connecticut, and spent his early life there and in New Haven. He attended the public schools in those areas and also attended Dean Academy in Franklin, Massachusetts.

He entered Georgetown University in September 1920 and graduated from the Georgetown University School of Law in June 1923, receiving the LLB degree. Following this, he served as an attorney with the United States Government on the United States Tax Court. Later he commenced pre-medical studies at George Washington University at night school.

He entered the University of Virginia School of Medicine in 1931 and graduated with the MD degree in June 1935. During his attendance there he was a member of Chi Phi fraternity. He commenced and completed a year of internship at Jefferson Hospital, Roanoke, in the following year.

During the years 1936 and 1937 Dr. Carey served as an epidemiologist in the Virginia State Health Department with duties first in Abingdon and then in Christiansburg.

In the fall of 1937 he entered the private practice of medicine in Floyd, where he remained until 1944. During this period he was active in local Lions Club and served as physician to the Selective Service Board. In 1944 he moved to Salem and practiced there until his retirement on March 18, 1963. Following this he served part time with the Roanoke County Health Department through 1964.

During his active years in Salem he served as a Roanoke County Medical Examiner and was for several years physician to the local Selective Service Board.

He was a member of the Roanoke Academy of Medicine, The Medical Society of Virginia and the American Medical Association.

After his retirement he shared his time between a local residence and a winter home in Dunedin, Florida.

He is survived by his wife, one sister, and one nephew.

His jovial good nature and close adherence to the highest standards of medical practice endeared him to patients and colleagues alike.

The Roanoke Academy of Medicine wishes by this resolution to express its deepest sympathy to the family of Dr. Carey and requests that a copy of this resolution be sent to Mrs. Carey and that a copy be sent to The Medical Society of Virginia for publication in the Virginia Medical Monthly.

Harry J. Minarik, M.D.

The Rx that says "Relax"

BUTISOL Sodium provides highly predictable sedative effect: minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action: begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

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These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

*Based on surveys of average daily prescription costs.

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Contraindications: Sensitivity or idiosyncracy to barbiturates; history of manifest or latent porphyria or marked liver impairment; respiratory disease with dyspnea or obstruction; history of addiction to sedative/hypnotic drugs; uncontrolled pain, to avoid because of possible excitement.
Precautions: Exercise caution in: moderate to severe hepatic disease; anticoagulant therapy, because of possible increased metabolism of coumarin anticoagulants; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects.
Adverse Reactions: Slight hangover, drowsiness, lethargy, headache, skin eruptions, nausea and vomiting, hypersensitivity reactions (especially in those with asthma, urticaria, angioneurotic edema, or similar conditions).
Usual Adult Dosage: For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg.
Available as: Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

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Rondomycin
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in tibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71

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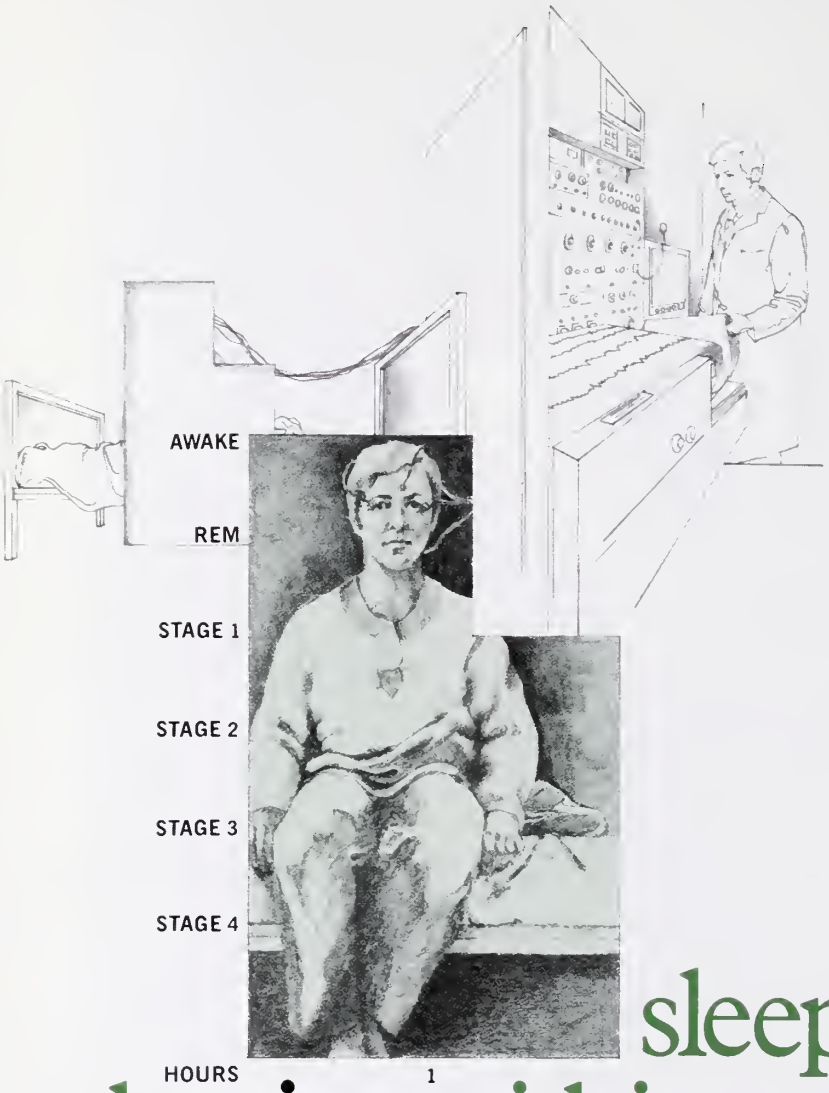
Rondomycin® 300 mg. Capsules

[methacycline HCl]

Delivers from the very first dose:

Studies show that after the first dose serum levels rapidly rise above minimum *in vitro* inhibitory concentrations

*Since many strains are known to be resistant, routine sensitivity testing is recommended.



sleep begins within 17 minutes, on average...

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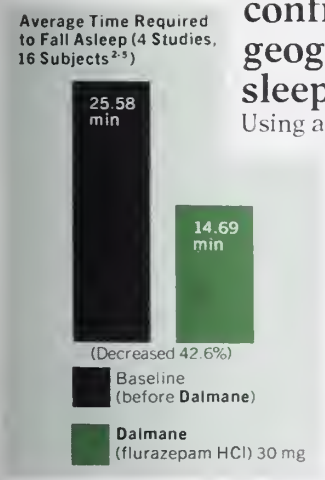
(flurazepam HCl)

proved by a 22-night clinical study of insomnia patients in the sleep research laboratory and at home[1]

Three insomnia patients selected for difficulty falling asleep were administered Dalmane (flurazepam HCl) 30 mg for 14 consecutive nights. Placebo was given for four nights prior to and four nights after Dalmane. Physiologic tracings on Dalmane nights 1-3 showed sleep induction time averaged 13.90 minutes; on Dalmane nights 12-14, 18.80 minutes. Combined average for the 6 monitored drug nights was 16.35 minutes.[1]



confirmed by clinical studies in four geographically separated sleep research laboratories[2-5]

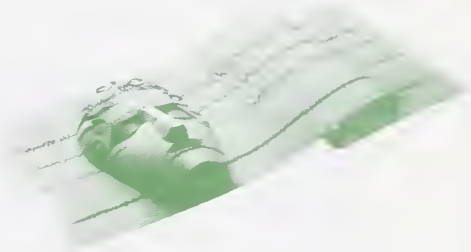
Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage.[2-5]

Dalmane (flurazepam HCl) induces and maintains sleep, with relative safety

Dalmane is generally well tolerated; morning "hang-over" has been relatively infrequent. While dizziness, drowsiness, lightheadedness and the like have been noted most often, particularly in the elderly and debilitated, physicians should be aware of the possibility of more serious reactions, as noted below.

Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.
Contraindications: Known hypersensitivity to flurazepam HCl.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.
Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.
Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.
Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.
Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



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One 30-mg capsule *h.s.* — usual adult dosage
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One 15-mg capsule *h.s.* — initial dosage for elderly or debilitated patients.

- **induces sleep within 17 minutes, on average**
- **reduces nighttime awakenings**
- **sustains sleep 7 to 8 hours, on average, without repeating dosage**

REFERENCES: 1. Kales A, *et al*: *Arch Gen Psychiatry 23*:226-232, Sep 1970
2. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971
3. Frost JD Jr: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ
4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ
5. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ

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Opinion & Dialogue

Is there a need for a drug compendium?

Government Health Official

Henry E. Simmons, M.D.
Deputy Assistant Secretary for Health
Department of Health, Education and Welfare

A drug compendium of the type I envision would fill a definite need for the practicing physician. Such a compendium would give him all the information necessary for using a drug intelligently, and it would do so in a clear, concise, convenient, objective and balanced fashion.

What a Compendium Should Contain

I believe the compendium should inform the doctor what a drug will do, when he should use it for what type of patient, for how long, in what dose, what benefits his patient is likely to obtain, the risks involved, and cross-reactions with other drugs.

The information would be based on the package insert and have the same legal status. In fact, a complete compendium with complete and current information might even eliminate the necessity

Maker of Medicine

Joseph F. Sadusk, Jr., M.D.
Warner-Lambert Company

A drug compendium, or preferably compendia, should, I believe, be private, not federal, in sponsorship. They should contain comprehensive listings of drugs available for prescribing. They should be single, legibly printed volumes of reasonable size, updated quarterly or semiannually and completely revised every year

Function of a Compendium

A compendium should furnish the following information on drugs in the following order: indications for use, side effects, adverse drug reactions, contraindications, drug interactions, drug dosage and the dosage forms marketed. Drug prices should not be included because they vary so widely and change rapidly.

No compendium should set forth drugs of choice or discuss relative efficacy. Such questions must be left for the practicing physician to decide, whether on the basis of the medical literature, his own clinical experience, advice of colleagues, information supplied by manufacturers, and so on.

Nor should a compendium undertake to educate the doctor o how to use drugs. Rather, it must be a reference source designed pr marily to refresh his memory as tc drugs he may not use regularly. It

for a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, I do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

Other Available Documents as Sources of Information

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful. On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

Should Editorial Comments Accompany the Listings?

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess and indicate instances where a meaningful difference between drugs is pertinent.

Sponsorship, Compilation and Editing

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

---

should in no way imply control over the practitioner's prerogatives.

Why Another Compendium?

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than produce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

Implications of a Federal Compendium

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

New Compendium—A Medical Option

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

Opinion & Dialogue

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What's on your patient's face...

may be more important than his chief complaint

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*Data on file, Hoffmann-La Roche Inc., Nutley, N.J

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respond to one

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ıptoms, she is a psychoneu-
c c patient with severe
iety. But according to the
ɛription she gives of her
ings, part of the problem
/ sound like depression.
ls is because her problem,
ıough primarily one of ex-
ive anxiety, is often accom-
ied by depressive symptom-
ogy. Valium (diazepam)
provide relief for both—as
excessive anxiety is re-
ed, the depressive symp-
s associated with it are also
tn relieved.

There are other advan-
gs in using Valium for the
agement of psychoneu-
t anxiety with secondary
essive symptoms: the
hotherapeutic effect of
ım is pronounced and
pl. This means that im-
cement is usually apparent
te patient within a few
ay rather than in a week or
two, although it may take
longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

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For further information on this subject, the following references are provided:

1. Henry BW, *et al: Dis Nerv Syst 30*:675-679, Oct 1969.
2. Hollister LE, *et al: Arch Gen Psychiatry 24*:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics 11*:438-441, Sept-Oct 1970.

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in psychoneurotic
anxiety states
with associated
depressive symptoms

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n habituation and dependence. In
ancy, lactation or women of child-
ang age, weigh potential benefit
ainst possible hazard.

ecutions: If combined with other psy-
otropics or anticonvulsants, consider
reilly pharmacology of agents em-
oyl; drugs such as phenothiazines,
arcotics, barbiturates, MAO inhibitors
nd her antidepressants may potentiate
action. Usual precautions indicated in
atients severely depressed, or with latent
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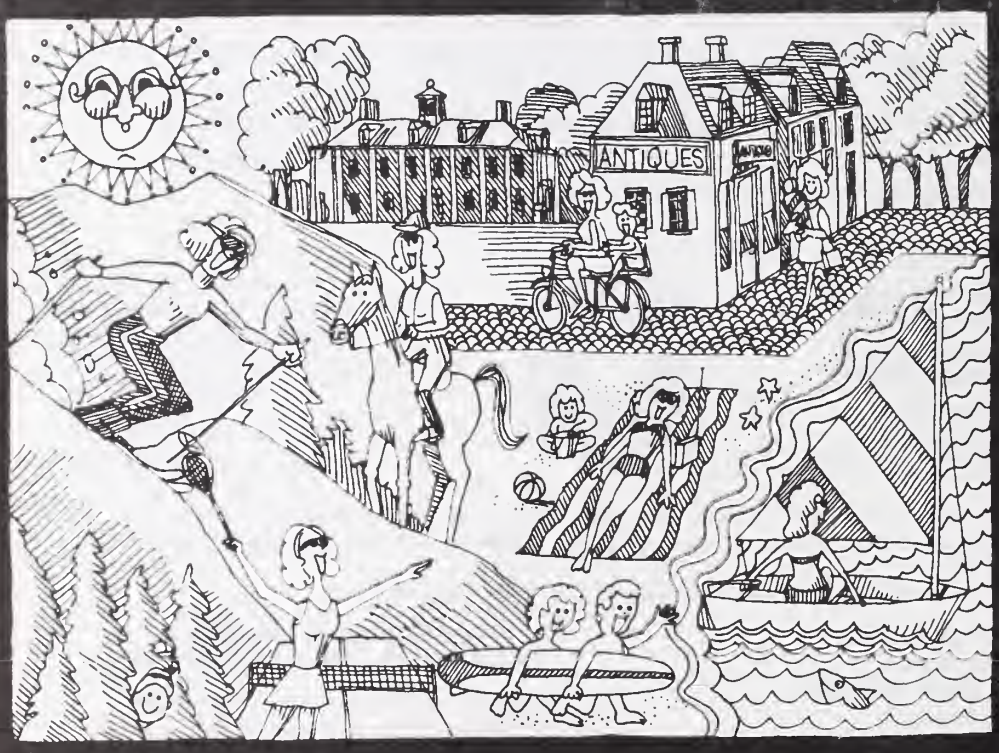

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The Medical Society
of Virginia

ANNUAL MEETING

Williamsburg

November 3-6, 1974

Rondomycin
(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.
WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**
Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.
Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)
All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.
Tetracyclines are present in milk of lactating women taking tetracyclines.
To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.
Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.
PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.
In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.
Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.
In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).
Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.
Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.
ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.
Skin: maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).
Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).
Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.
Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.
Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.
Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.
USUAL DOSAGE: Adults – 600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. **Gonorrhea:** In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.
For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.
Eaton Agent pneumonia: 900 mg daily for six days.
Children – 3 to 6 mg/lb/day divided into two to four equally spaced doses.
Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.
Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.
In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.
In streptococcal infections, a therapeutic dose should be given for at least 10 days.
SUPPLIED: 'Rondomycin' (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71

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The Human Resource Institute of Norfolk offers individualized treatment programs within a therapeutic community to all ages and diagnostic categories of mentally and emotionally disturbed adults, adolescents, and children. By utilizing various individual and group therapies the patient becomes aware of his own feelings and his relationship to others. The diversified therapies increase the individual's self-esteem and encourage him to function in an effective manner.

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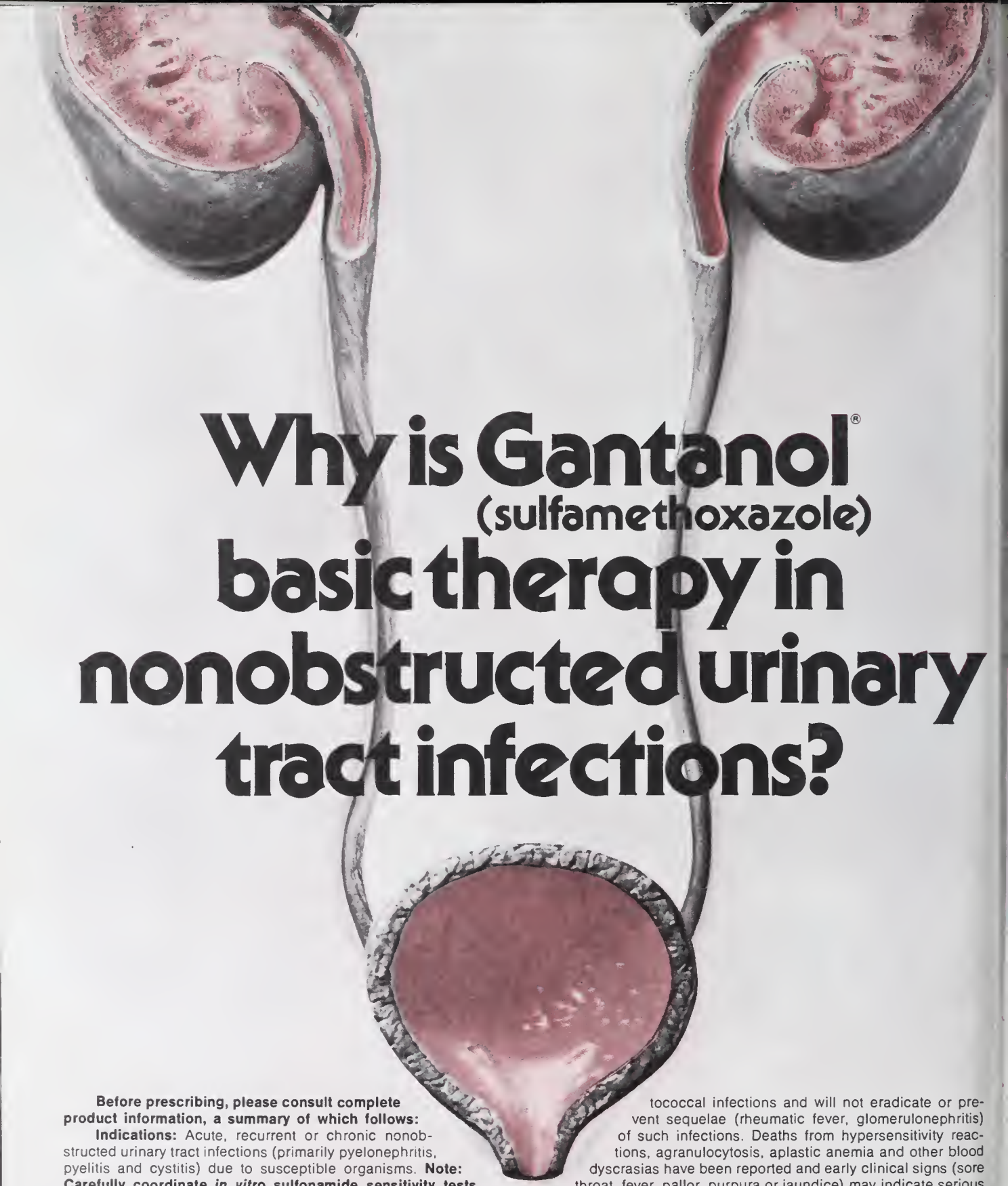
To find out more about our comprehensive program contact the Co-Medical Directors, Dietrich W. Heyder, M.D., F.A.P.A., or Fathy A. Abdou, M.D., F.A.P.A., Human Resource Institute of Norfolk, Human Resources Building, 100 Kingsley Lane, Norfolk, Virginia 23505. Phone (804) 489-1072.



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Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, pur-

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Basic Therapy

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pura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

Usual adult dosage: 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

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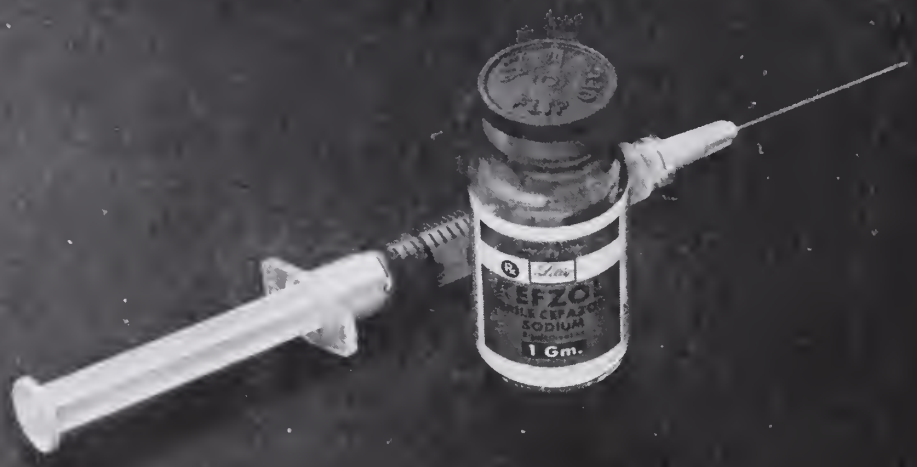

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The Virginia
MEDICAL MONTHLY

June, 1974
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Guest Editorial . . . .

PSRO—What It Means to Me

NO PHYSICIAN THINKS MORE HIGHLY than I do of the sincerity as well as the ability of my fellow physicians who have expressed themselves here today. Different doctors often see the same subject in a different light. I therefore hope that it will not be thought disrespectful to those physicians if I entertain, as I do, opinions in character very opposite to theirs.

Over the years, I have heard much too often the old, well worn cliche, "If we don't do it, the Government will do it for us." This time we "did it". We did it all the way. We developed and submitted a plan, and on time. Even so HEW ignored our effort and did it their way.

PSRO works on the principle that the physician is guilty until he can prove that he is not. This is in direct cross purpose to the general laws of our land which consider one innocent until proven guilty. Although, at this very moment legislation is being spawned to protect the privacy of the citizenry of this country, PSRO has ordered full steam ahead in invading the privacy of the doctor's records.

The enforcement of these principles will be a further awful moment in the history of our great profession.

In issuing the call for this meeting, our Executive Vice President could not have been more correct than when he stated that this would be an historic meeting, perhaps the most important meeting in the history of our society. We do indeed have an appointment with history today.

We are here today again being asked to compromise our position. Our generation of physicians in dealing with the Government has already compromised our profession far too many times. We have run out of compromises. In my opinion, if we continue to go this route, the street of compromise will lead surely and quickly to the dark alley of outright surrender of every shred of our professional independence—a land from which there will be no return.

Our actions here today can be our finest hour. We may never have that chance again. The parade is just about over. Will the past heritage of our great profession now here today mean nothing? Will we look back proudly

Delivered at the meeting of the House of Delegates of The Medical Society of Virginia on April 10, dealing with PSRO.

on this day, or will we surrender and make this a day of shame in the history of our noble profession? Will we roar like lions for freedom or will we bleat like lambs for an insecure security—an insecurity that will require responsibility to regulatory guidelines and to the source of the grant at the expense of the patients entrusted to our care.

There will be those among you here today who disagree. For you I have no word. We simply hear the beat of a different not too distant future drummer.

I pray that you all know that my interest in this arises from my love and respect of our profession. I could sit on the sidelines and keep back my opinion at such a time. I need not tell you that I, and several other physicians here will not be very long affected by this surveillance. We have made the wide turn of life and are beginning to walk in the long shadows. Before too long we will be thinking of a different kind of review. If I did not speak up I would feel disloyal to my profession and to our fine young and future physicians who will be the beneficiaries of such professional legacy as we choose to leave them.

I do not know how others here may feel but as for me, when those shadows I spoke of begin to fade out, I hope I can look back and proudly say, this was our finest hour and that the records will show that we took the blow and did it our way.

As I close, my thoughts turn to the words of another Virginian concerned with freedom some two hundred years ago. "I have but one lamp by which my feet are guided and that is the lamp of experience. I know of no way of judging the future except by the past."

I wish to know what there has been in the conduct of the Government interference with the private practice of medicine during the last nine years to justify the hopes with which some of our colleagues have been pleased to solace themselves. I urge you to reject this devilish thing with a ring and a roar. Trust it not. It will prove a snare unto your feet.

Alexander McCausland, M.D.

609 South Jefferson Street
Roanoke, Virginia 24011

PSRO Must Be Repealed

JAMES B. HUTT, JR., M.D.
Chester, Virginia

PSRO is without doubt the most important and crucial issue that has ever been faced by the medical profession. The basic issue is simply this—shall we fight to preserve our God-given right to practice as free men or shall we submit to slavery? To fight is to get repeal of PSRO—to submit is to cooperate and assist in its implementation. The truth of this statement can be readily proven.

First let's look at the background—at what has happened in the past that led into our present situation.

The Peer Review Organization (PRO) concept first received national attention in July 1970 when it was introduced into the U.S. House of Representatives as part of the AMA's Medicredit Bill. One month later the Peer Review Organization section of the Medicredit Bill was strengthened, renamed Professional Standards Review Organization (PSRO) and introduced as a separate bill in the Senate by Senator Wallace Bennett—the so-called Bennett Amendment. It was at about this time then that most of us became aware of the plans being made for us.

I do not intend to spend time fixing responsibility or placing blame but please note in passing the role played by the AMA in creating PSRO. It was indeed an AMA brainchild.

Where did The Medical Society of Virginia stand at that time? At the 1970 annual meeting in Richmond, several resolutions were considered which opposed any support for PSRO. The majority of the delegates at that time stood solidly behind those resolutions.

By 1972 the mood in Virginia had noticeably changed. PSRO was being touted and The Medical Society of Virginia was making plans for its implementation. These included the establishment of a foundation—a corporation separate from the Medical Society but under its control which would serve as the review organization. At the meeting of the Virginia Board of Medical Examiners in Norfolk, June 1972, continuing education and recertification were considered. The president-elect of The Medical Society of Virginia was a guest at that meeting and assured the Board that PSRO planning was well under way. He suggested that action on continuing education and recertification should be delayed so that they could be coordinated with or included in the review organization. A motion was made to that effect and passed by the Board with but one dissenting vote. I mention this episode to merely illustrate that the mood in the summer of '72 was one of anticipation.

When the delegates met that Fall in Williamsburg, PSRO seemed to be the wave of the future—rolling along with the backing of the majority of the delegates. There was enough opposition, however, to delay final action until the annual meeting of the following year. In the interim, copies of the plan were to be sent to the component societies for their instruction and comments.

On October 30, 1972, after no debate in Congress, PSRO was signed into law as an amendment to the Social Security Act.

By the time of the next annual meeting in Norfolk, October 1973, it was evident to even the most avid supporters of PSRO that HEW was in total control and intended to stay that way. HEW Region III officials from Philadelphia were so adamant and unwilling to compromise that, after meeting with them, the President of The Medical Society of Virginia felt compelled to write to Senator Harry Byrd asking him to help by putting pressure on HEW to accept the Virginia plan.

The meeting last fall in Norfolk was noteworthy in two ways. The first was the opening address to the House of Delegates by Dr. James Sammons of the AMA. His theme was

that we should make no "last-ditch-stand" against PSRO but should cooperate with the government in its establishment. Again note the position of the AMA.

The second was that The Medical Society of Virginia passed a resolution calling for repeal of PSRO, support of the AAPS legal suit against HEW and instructing Virginia's delegates to the AMA to introduce similar resolutions there.

Virginia was not alone in her firm stand since an overwhelming majority of the AMA House of Delegates at Anaheim, California, voted to repeal PSRO.

Finally HEW refused to accept the Medical Society plan to form a statewide PSRO for Virginia. HEW did indicate that it might be acceptable for the Medical Society to take the lead in forming a PSRO Support Center instead. The Support Center would function as a coordinating or intermediate organization between the five local review organizations that have been designated for Virginia and the regional PSRO in Philadelphia.

It had been decided at the meeting in Norfolk last fall that in the event that any major modifications were necessary in the Virginia plan, a special meeting of the House of Delegates would be called to consider what course of action to take. This meeting was held April 10th in Richmond. Two resolutions were passed. The first advocated repeal of PSRO and the second authorized the Medical Society to proceed with plans for a Support Center.

The PSRO law is unethical, unnecessary, unwanted, unconstitutional and unacceptable. An in-depth discussion of its provisions does not seem to be necessary. Simply listing them, however, may refresh your memory and bring the problem into proper focus. I may be wrong on some of the details but it really doesn't matter since they can be changed at will by simply publishing them in the Federal Register.

PSRO contains the following provisions:

1. Cookbook medicine (the Federal government writes the cookbook) is encouraged by giving legal immunity to the doctor who conforms. It is enforced by threat of $5000 fine and expulsion for the doctor who does not. Under this system the physician becomes a helpless robot—managed from above and unable to use his own judgment!
2. All medical records including those in the doctor's office are subject to scrutiny by PSRO agents—an invasion of the privacy of the patient and the physician!
3. Elective surgery must be certified by PSRO. In other words, the decision to operate will be assumed by PSRO—practice of medicine by committee!
4. PSRO would assume authority for all hospital admissions including the right to deny and to determine when and where. Emergency admissions would be allowed but would have to be justified by adequate data from the physician within 24 hours.
5. Length of hospital stay must conform to norms. The physician may be liable for the extra cost for a stay over the norm. PSRO rulings will be made in retrospect and, as the saying goes, they will have 20/20 hindsight.
6. PSRO has the power of police, judge and jury. The physician is guilty until he proves his innocence (to whom does he prove it?). He is required to advise his patients of his suspension, if suspended. The appeal process is long and complicated before he can gain access to the courts.

There are more, but is there any need to continue? This *is* tyranny—tyranny that will destroy and end the private practice of medicine in the United States. Many physicians will refuse to practice under the provisions of PSRO. I am one of these.

Fellow physicians, we have no alternatives. We must reject and repeal PSRO. There is no way that we can sweeten this bitter pill!

Those among us who advocate cooperation in order to soften and mold the regulations are honest and sincere in their beliefs. They deserve our gratitude for the hard work that they have done in our behalf—but they are

dead wrong. Doctors would be pitted against doctors—the individual physician against his profession and his medical society. When the quality of medical care deteriorates and becomes more expensive (as it surely will), the blame will go to the physicians, not to the government—where it belongs.

What are the chances for repeal? They are excellent if we really put our energy and resources into the task.

We should take our fight to Congress and to our patients who after all are the voters. We can apply immense and irresistable pressure. The campaign should be coordinated at the individual, local, state and national levels. If finances are needed, they are available and sufficient to do the job. Surely we would give everything we have to avoid the fate that is in store for us. Our campaign could be the envy of every politician.

Since the AMA is, in the eyes of the public and our elected officials, spokesman for the medical profession, it should play a key role in our effort.

An AMA official recently gave a speech on PSRO and he did a good job of telling what was wrong with it. Then he proceeded to tell us that repeal is out of the question because he had talked to many important people in Washington who assured him of this.

He had talked to Wilbur Mills, Russell Long, Wallace Bennett, Edward Kennedy and even Richard Nixon. What else did he expect to hear from these people? These are the men who are now pushing National Health Insurance to cover every living soul in the USA whether they need it or want it.

What a combination this will make! PSRO and NHI! In order to practice medicine you will have to come under PSRO rule or starve. Are they planning it that way?

The AMA was given a clear mandate by the delegates from all parts of this nation when they met in Anaheim—repeal PSRO! How much AMA sponsored publicity have you seen in the national news media about why PSRO must be repealed? The AMA must obey its mandate—not just passively or by giving lip-service, but exert the initiative and the leadership required to get the job done. If the AMA does not, then let's clean house or, failing this, remove our support and let it be known to the public that the AMA does not speak for us.

Politicians, being human and politicians, are primarily concerned about staying in office. If they are convinced that the physicians and their patients want repeal of PSRO—PSRO will be repealed.

I have written to both of our Senators and all ten of our Congressmen. Both Senator Byrd and Senator Scott are favorably inclined toward repeal. Five of our ten representatives have joined in sponsoring repeal legislation. Four more will vote for repeal and the other one would probably join them if persuaded. How many letters have you written?

In closing, let's return to the original premise—that we either fight for repeal or submit to slavery.

Only a short time ago, relatively speaking, our forefathers threw off the yoke of tyranny of the old world and established a new nation. They feared government for they knew its cruelty first hand. So they tried to limit its power by a Constitution.

They succeeded remarkably well and we inherited an era of freedom unlike any other in the recorded history of man. With that freedom went progress and knowledge (yes, in medicine too) beyond man's wildest dreams. Did you really expect to see (*literally*) a man on the moon in your lifetime?

Unfortunately there has been a gradual erosion of that fragile and wonderful document—our Constitution. The frail shell that remains is all that lies between us and total government, total destruction and total slavery. PSRO is another giant step in that direction.

Did you ever try to imagine what your life would be like without freedom? If so, you discovered that without this one quality everything else in life loses its meaning—even life itself. Other men know this. How, otherwise, do you explain the actions of the multitudes that have lost their lives trying to escape

the slavery of Communism in China, Poland, Hungary, East Germany, Cuba, Czechoslovakia, and Russia—and on and on?

Listen to the words of a brave man who has been there—Solzhenitsyn. Perhaps he is talking to us.

"Oh, freedom-loving thinkers of the West. Oh, leftist Laborites! Oh, progressive American, German and French students! For you all this counts for little. For you my entire book amounts to nothing. You will only understand it all when they bellow at you—'hands behind your back'—as you yourselves trudge off to our archipelago."

Finally, let me remind you that "power corrupts and absolute power corrupts absolutely".

PSRO is power!

The challenge is clear!

Our response is clear!

Let's stand on our principle and get on with the job—for to do otherwise will truly lead us into slavery.

2212 Mt. Blanco Road
Chester, Virginia 23831

LET'S REMINISCE!

Medical Society of Virginia.

The Twenty-seventh Annual Session, to assemble at Rockbridge Alum Springs, Va.—the famous summer and health resort of Virginia—will be undoubtedly one of the very best ever held. The proprietors have agreed to the remarkably small per diem of $1.50, and in addition, will contribute a banquet in compliment to the Society and its guests.

* * * * *

The management promises that, beginning Monday, September 7th, and during the session * * * * the Rockbridge Alum Springs trains will be run to and from Goshen so as to meet all the scheduled passenger trains on the Chesapeake and Ohio railroad that pass that depot—about eight or nine miles distant. The fare over this railroad will be (for this occasion) $1.25 *round trip*, instead of that price each way.

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The Nurses' Role Through the Physician's Eyes

A Historical Review

WEIR M. TUCKER, M.D.
Richmond, Virginia

The nurse fills vital and varied roles in the modern world of medicine. There have been great changes since the time of Florence Nightingale and her duties now range from bedside care of the sick to teaching and administration.

THE NURSES' ROLE through the physician's eyes is determined by her education and experience. Take a nurse out of her cap and gown, and she is a woman. The image of the nurse has a historical background, delineating many of her problems, to be considered in directing her education.

The occupation of caring for the sick and helpless has existed from the beginning of recorded history. Evil spirits were once thought the cause of illness. The sick were then cared for in temples of worship. Nursing by women outside their own homes began in the early Christian period. The first groups of women concerned with nursing were called deaconesses.

There was no education or training for this work until the seventeenth century when St. Vincent de Paul encouraged such studies. A real hospital training for nurses was not established until 1836 at Kaiserwerth, Germany. It was here Florence Nightingale had her training in nursing. She later established at St. Thomas's Hospital in London the first school designed primarily to train nurses rather than to provide nursing service for the hospital. In 1873 in New York, New Haven, and Boston, nursing schools patterned after the Nightingale School were formed.

In the twentieth century legislation regulating the practice of nursing was initiated in most states. Public health and industrial nursing were to develop fast, and university and postgraduate college courses for graduate nurses began. The first world war closed inadequate schools and brought about improvement in others, and the actual number of nursing schools increased.

In 1910 the University of Minnesota established the first basic school of nursing to become part of the University System. Since this time there have developed many changes in nursing education paralleling that of the medical schools. These changes are (1) physical aspects of nursing and medical care of patients; (2) comprehensive care of patients including social and individual care of patients in home and health agencies; and (3) beginning now a plan for broader scientific basis for professional practice.

The Gold Mark Report in 1923 shifted the emphasis of physical aspects of nursing of the patient in clinical units of hospitals to inclusions of general nursing of patients and families in home and health agencies.

The second phase began with the Brown Report in 1948. Nursing was broadened to achieve inclusion of comprehensive nursing, nursing the whole patient which helped the patient not only to get well but to keep well. Physical and social sciences were included in this training.

The third phase was a shift from empirical to a scientific basis including teaching dynamics.

In 1859, Miss Nightingale wrote, "I would call attention to something in which nurses fail in observation. There is a well marked distinction between the excitable and what I will call the accumulative temperament in the pa-

tient. One will flare up at once under any shock or anxiety and sleep very comfortably after it; the other will seem quiet and even torpid under the same shock. Also the nurse must differentiate between idiosyncrasies of patients. One likes to suffer out all his suffering alone, to be as little looked after as possible. Another likes to be perpetually made much of and pitied, and to have someone always by him. Both these peculiarities might be observed and indulged much more than they are."

McManus has written, "The function of the professional nurse is conceived to parallel somewhat that of the professional physician. The unique responsibility of the physician recognized by law is to identify the medical problem, diagnose, plan, and prescribe treatment. Similarly, the unique function of the professional nurse may be conceived to be the identification or diagnosis of the nursing problem and the recognition of its interrelated aspects; and the deciding upon of a course of nursing action to be followed for the solution of the problem in light of immediate and long-term objectives of nursing with regard to prevention of illness, direct care, rehabilitation, and promotion of the highest standards of health possible for the individual."

Nurses need training in recognizing overt and covert nursing problems. To accomplish this there is need of understanding (1) the physical, social, and emotional needs of the patient, (2) types of interpersonal relationships between nurses and patients, and (3) common elements of patient care.

Dr. Hale believes that schools and physicians should resist the trend of nurse-educators to get the student nurse away from the bedside patient. In Massachusetts a new program was tried which involves one year at the university and two years at the hospital and the university grants an associate degree. The college programs often insist that the student be an observer without actually carrying any substantial responsibility for the patient's care.

The National League for Nursing Accreditation Program will result in removal of the student from the bedside of the patient and eventually her placement on the college campus "in the stream of general education". When bedside assignments are eliminated, the costs of the school tend to become prohibitive and hospitals can no longer support schools without State or Federal subsidies. Nursing education will then lose a "work and learn" type of discipline and the shortage of nurses will be even greater.

In 1964 there existed three systems for registered nurses, each appearing as a result of nurses' education changes, in the hospital, in medicine, or in community health programs. Each system has its supporters.

First, the original hospitals in America lacking the Nightingale experience or leadership developed nursing schools without any immediate objective beyond patient care and the influence of doctor's demands for nurses in the hospital and home. This only showed that skilled nursing was better than unskilled nursing and schools of nursing became schools for hospital-training of nurses.

Then there occurred rapid growth of nursing schools without control. In. 1893 the American Society of Superintendents of Training Schools for Nurses of the United States and Canada was organized. The Association was to maintain a universal standard of training. The Organization is still active. It influenced development of Alumnae Associations, which gained support of the Associated Alumnae to become the American Nurses Association and to obtain State registration. They supported the American Journal of Nurses. They planned Hospital Economics courses at Teachers College, Columbia University, to prepare administrators and teachers in nursing.

Out of the influence of the Association of Collegiate Schools of Nursing and the National League for Nursing, college nursing programs progressed to full university status and the second type of nursing training was purely educational. This seemed to result from the 1932 Committee on Grading Nursing Schools' report concerning the low standard of education in pure hospital nursing schools.

In 1950 nurses at the Mid-Century of Nursing Services encouraged more effective accreditation and school improvement programs. In 1952 McManus and Montag in the Nursing Education Division of Teachers College, Columbia University, interested junior colleges and nursing schools in hospitals in college instruction, and this resulted in many junior colleges adding nursing to their programs.

The first was hospital training, the second was purely educational, and the third was both college and hospital training. Both the two year and three year programs are planned to prepare for beginning general duty nursing. The hospital trained group are more oriented in patient care, and the junior college and hospital groups are more oriented to public health and community nursing. The educational group are trained as teachers and administrators.

The educational group is pushing for college and university programs. The hospital and nursing service administrators urge retention and improvement of the hospital school plan. This system with the junior college program furnishes 90% of the practicing nurses. Nurses from all groups want to nurse patients. The approach to nursing changes as modern medical practices and surgery changes.

The nurse as a quiet, submissive, handmaid of the physician has undergone a transformation in the twentieth century. A nurse is still obliged to obey the doctor's orders. The nurse in doing so is not obliged to put up with abuse and expects to be treated with courtesy and respect. She no longer works for the physician. She works with a physician. Her contribution to patients' care is as great as the physician's. Dr. J. S. Longshare of Philadelphia in an early nursing book wrote, "If the same be true, that a patient stands a better chance with a good nurse and an inferior physician than with a good physician and an inferior nurse (and we are not disposed to doubt it), everyone must admit that those who offer themselves as nurses or guardians of the welfare of others in the hour of danger should previously by reading or observation have prepared themselves adequately to the undertaking."

Nursing should not stress improved care and more technical understanding and then delegate this care to aides and attendants. Nursing and medicine should not separate. The nurse is a patient-oriented person but recent trends seem to be more concerned with prestige and professional dignity. The trend to be more scientific should not also take the nurse away from the patient's bedside.

A nurse should be able to communicate with patients as a person. Her presence should be able to communicate with patients, giving them a sense of security. She should be able to observe and report intelligently. This takes a certain amount of academic study as well as practical experience. Nursing science and nursing education should be planned to make a nurse better able to care for her patient. More emphasis should be placed on the patient than the nurse, and in training, service, and education should be united to make the nurse more intelligently prepared for her duties.

We need nurses who are administrators, teachers and those able to carry on various hospital functions. The nurse is an indispensable part of a sick person's care and must be educated basically to fulfill the many functions pertinent to good care. To force them into a single training mold is not to their best development because their multiple functions necessitate a varied hospital experience along with a common basic structure of academic nursing education. Thus she will be best trained to fulfill her final interests.

The nurse is an indispensable part of a sick person's life. She not only has to care for physical needs and be adept in handling machine equipment but also must handle her emotional involvement, social entanglements, economic affairs in an interrelated and interpersonal situation, and at the same time be in communication with the patient, physician, and hospital. To her job she must be educated and trained through study, observation, and experience—God bless her!

212 West Franklin Street
Richmond, Virginia 23220

Boerhaave's Syndrome

A Case Report

JOHN A. VAN HEERDEN, M.B.
MARGARET TOXOPEUS, M.D.
GEORGE TROXEL, M.D.
Winchester, Virginia

Rupture of the lower esophagus carries a high mortality. A case with successful outcome is presented; diagnostic and therapeutic aspects are discussed.

BARON DE WASSENAUER, Grand Admiral of the Navy of Holland, was given to overindulgence in eating and drinking. To obtain relief from his gastronomic sins, he would take ipecacuanha in a "copious infusion of blessed thistle" to induce autoemesis. On such an occasion the Baron astutely diagnosed and succinctly predicted the outcome of his own condition. Following the induction of vomiting, he cried out that something had torn in the region of his stomach and that the pain was so severe that he would surely die. He was correct.

An autopsy on the Admiral was performed by Hermann Boerhaave, the prominent Dutch physician, who published his findings in the year 1724—thus lending his name to this syndrome.

Noninstrumental ruptures of the lower esophagus may conveniently be divided into two categories.

1. Incomplete (Mallory-Weiss syndrome) —characterized by mucosal tears and gastrointestinal hemorrhage.
2. Complete (Boerhaave's syndrome)—characterized by full-thickness tears and severe pain.

Dr. van Heerden is presently at the Mayo Clinic, 200 First Street SW, Rochester, Minnesota 55901. Send reprint requests to him.

Both of these syndromes are in the spectrum of postemetic or emetogenic injuries. Burford favors the terms barogenic rupture, as a sudden rise in intraesophageal pressure is a common denominator in all instances. Complete barogenic rupture of the esophagus usually follows a period of severe and excessive vomiting and retching such as may occur during the pernicious vomiting of pregnancy, seasickness, bowel obstruction, and in the immediate postoperative period. A history of excessive intake of alcohol is present in about 30% of cases, and 20% have a previous history of peptic ulceration. Less commonly, rupture may occur following childbirth, defecation, and blunt abdominal trauma.

The first report of successful surgical treatment of Boerhaave's syndrome was that by Barrett of London, in 1947, which was 222 years after the original description of this entity.

A recently encountered patient in our community hospital prompted this case report.

Case Presentation

A 75-year-old white man developed an incarcerated right inguinal hernia three days before admission. Progressive abdominal distension led to vomiting, which increased in both frequency and intensity. Immediately after a spell of vomiting he felt severe pain beneath the lower end of his sternum, which prompted his arrival in the emergency room.

His initial laboratory studies were noncontributory. Radiographs obtained the morning after admission showed small bowel obstruction and mediastinal and cervical air (Figs. 1, 2, and 3). Cervical crepitus was present. Interestingly, a barium swallow roentgenogram

done at this time failed to reveal an esophageal leak, although a subdiaphragmatic tear was strongly suggested radiographically.

Fig. 1. Upright film of abdomen showing multiple air-fluid levels in large fluid-filled loops of small bowel. The lower portion of the chest has mediastinal air along the aorta, basilar atelectasis, and a small pleural effusion.

Fig. 2. Mediastinal air is seen along the aorta and in the paratracheal area extending into the neck.

Fig. 3. Lateral view of the neck showing extensive soft-tissue emphysema in the prevertebral space.

Surgical exploration revealed a 4-cm transmural tear of the esophagus situated in the posterolateral position on the right, ending about 3 cm from the esophagogastric junction. Exposure was gained via an upper midline incision, although we were prepared to proceed with a thoracotomy if needed.

Primary closure of the laceration was performed with an inner layer of catgut and an outer layer of interrupted silk. Thorough drainage was instituted, both of the peritoneal cavity and of the left pleural space. A feeding jejunostomy was created, and a nasogastric tube inserted.

His initial postoperative course was uneventful except for moderate azotemia, which improved steadily. A barium swallow roentgenogram done four weeks postoperatively revealed a butterfly-shaped paraesophageal cavity (Fig. 4). Five weeks postoperatively, an air-fluid level was detected in the right posteromedial hemithorax. Barium outlined a free communication between the esophagus and the pleural space (Fig. 5). A chest tube was inserted to create an esophagopleural-cutaneous fistula. The tube was left in place for three weeks, after which the fistula closed spontaneously.

Seven months after rupture he had gained 25 pounds in weight and was tolerating a

normal diet well. His present esophagogastric roentgenogram is seen in Figure 6.

Fig. 4. A triangular extravasation of contrast material is seen in the lower mediastinum.

Discussion

The clinical diagnosis of Boerhaave's syndrome usually is an easy one. A symptom complex exists which is referred to as the tetrad of Gott:

1. Pain in the lower chest with vomiting and hematemesis
2. Subcutaneous emphysema of the neck
3. Respiratory distress
4. Prostration.

The single most important diagnostic measure is the chest radiograph, in which we may find the following:

1. Emphysema—mediastinal and subcutaneous
2. Pleural effusion
3. Pneumothorax
4. Widening of the mediastinum
5. Atelectasis.

Fig. 5. Barium is seen layering out in the pleural cavity. Note the air-fluid level above the barium.

Most significant and practically diagnostic is localized mediastinal emphysema. This is usually evident before physical signs are present. However, if the chest radiograph is underexposed or taken too early, mediastinal emphysema may be missed. In addition, the retrocardiac position of the air makes its detection on routine chest radiography difficult or impossible. A Bucky chest film and "scout" films of the abdomen are, therefore, recommended. Since perforated ulcer is often suspected, it is usual to have a roentgenographic examination of the abdomen in a search for subphrenic air. The presence of air beneath the diaphragm usually rules out esophageal

rupture, although Strauch and Lynch have reported one instance of subdiaphragmatic rupture of the esophagus.

Fig. 6. Current status of esophagogastric junction.

A form of localized mediastinal emphysema was described by Naclerio in 1957 as the "V sign". The V-shaped linear density corresponds to air in the fascial planes of the mediastinal and diaphragmatic pleura in the region of the lower esophagus behind the heart. Later the emphysema becomes more extensive and involves the entire mediastinum. It eventually fans out as subcutaneous emphysema, involving the cervical region, face, and chest wall. Soft-tissue emphysema is most clearly seen on a lateral view of the neck.

The majority of patients (90%) have fluid in the pleural space. The effusion may occur without rupture of the parietal pleura. With perforation of the esophagus and spill of gastric contents into the mediastinum, chemical and septic mediastinitis results rapidly. Extensive inflammation of the adjacent parietal pleura produces a transudate into the pleural space. Similarly an effusion may arise in the contralateral pleural cavity or in the pericardium. It is bilateral in 7% of cases.

The esophagus may perforate directly into the pleural cavity and cause a hydropneumothorax. This occurs most commonly on the left side (75%) but may be bilateral or rarely, as in our case, on the right. (In newborns the perforation is usually on the right. It has been postulated that this is due to the fact that the left side of the esophagus is adjacent to the aorta in infants.)

The widened mediastinum may appear as a fusiform opacity behind the heart; on overexposed films, a fluid level or a mottled appearance due to extruded food particles may be detected.

In an effort to reduce pain, the patient may splint his lower chest and precipitate bilateral basilar atelectasis. In patients who survive the initial perforation, this basal collapse may be followed by a superimposed pneumonia that is slow in resolving.

A contrast esophagogram will confirm the presence of an esophageal leak in less than 75% of cases. Thus, lack of extravasation of radiopaque medium does not necessarily exclude the presence of a perforation. Passage of the material may have been too rapid or the viscosity of the material too great to allow the contrast medium to leak. Alternatively, the opening may have been partially closed by massive edema or wedged food particles. Oblique views are necessary to ensure that the

leak is not obscured by the barium in the esophagus.

Controversy exists over the type of contrast material to be used. One group warns that barium acts as a foreign body in an infected area. Others believe that the contrast produced by barium is far superior to that of iodinated contrast media, and they point out that barium can be removed by irrigation during operative treatment of the defect. We believe that barium is the contrast medium of choice.

Treatment

Once the diagnosis has been established, there is little disagreement that immediate surgical intervention is strongly indicated. The principles are those of primary repair, if this is feasible, and thorough drainage. Repair is often technically difficult due to esophageal-wall edema and maceration, which increase in direct proportion to the time since rupture. Various surgical "tricks" have been reported. Basically, there exist the following approaches:

1. Primary-layer closure with drainage
2. Gastric fundal flap (Thal and Hatafuku)
3. Pericardial flap (Millard)
4. Modified T-tube drainage (Abbott et al.)
5. Esophageal transection with esophagostomy and gastrostomy; delayed reconstruction.

Antibiotics should be used routinely, and prolonged "rest" of the gastrointestinal tract achieved by the use of hyperalimentation or gastrostomy or a feeding jejunostomy. The secondary complications such as empyema, esophagopleural fistulae, and subphrenic abscesses are dealt with by the usual methods.

The morbidity and mortality of Boerhaave's syndrome are still extremely high, so a successful outcome seemed worthy of report.

Summary

A successful outcome of Boerhaave's syndrome is presented. The radiographic aspects are stressed. The modalities of surgical treatment are discussed briefly.

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Deaths From Heart Disease Drop

America is making progress in the battle against heart disease, says a report in the March 4th issue of the Journal of the American Medical Association.

Although overall deaths from heart disease have increased, the death rate in the productive years of 35 to 64 has dropped. The increase has come among Americans of advanced years. More heart attack victims are being saved to live out a full life span. The fight is far from over and redoubled efforts are still needed. But progress has been encouraging.

The report runs counter to repeated proclamations of the past decade that we are having an epidemic increase in death rate from heart disease. This is because medical leaders have looked only at the *crude* death rate, noting that it has been rising. The only meaningful rate is the *age-adjusted* death rate, which peaked in 1963 and has been declining since.

"Medical spokesmen have apparently failed to differentiate between crude and age-adjusted death rates," writes Weldon J. Walker, M.D., of Los Angeles, member of the JAMA editorial board. Dr. Walker uses federal government statistics to show the decline in age-adjusted death rates.

In an accompanying editorial Robert H. Moser, M.D., JAMA editor, points out that "the greatest relative decline in mortality appeared to occur during the most productive years of life: 35 to 64 years. The respective declines in mortality were 35-44 years—9.2 per cent; 45-54 years, 12.5 per cent, and 55-64 years, 10.5 per cent."

"One is inclined to suspect that if indeed the statistics are valid they could represent earlier detection and better management of acute myocardial infarction (heart attack)." "It was around 1962-63 that the concept of the coronary care unit began to take hold."

In Dr. Walker's report, he also cites records from Metropolitan Life Insurance Company that mortality from heart disease among ordinary policyholders in 1972 was only 93 per cent of that in 1967 to 1971.

Dr. Walker points out that "*The Surgeon General's Report on Smoking and Health* and the vigorous educational program against risk factors by the American Heart Association coincided with the onset of the change in mortality trend. This encouraging fact should lead to redoubled efforts to prevent atherosclerosis. However, the reported gains are small; the magnitude of the problem is vast."

An Approach to Studying Emergency Department Utilization

JAMES WOOD, M.H.A.
LAWRENCE PRYBIL, Ph.D.
JOHN SIMPSON, M.H.A., F.A.C.H.A.
Richmond, Virginia

Hospital emergency rooms are changing from facilities that provide emergency medical service into ambulatory care centers supplying primary care to a large population with non urgent medical needs. This change is creating a new set of problems, not the least of which is the lack of professional personnel.

THROUGHOUT THE UNITED STATES there is growing concern about the provision of emergency medical services. Utilization patterns show that steadily increasing demands are being placed on emergency care systems in communities across the nation.[1] Last year approximately 50,000,000 persons sought medical care in hospital emergency departments and utilization is increasing each year. At the same time, utilization studies in many communities and states have shown that a large proportion of these visits are not true medical emergencies as defined by physicians.[2] These parallel trends—rapidly increasing utilization and a high incidence of nonemergency cases—have characterized hospital emergency services in recent years.

Serious concern about emergency care is being expressed by health professionals and consumers. This concern involves the rising utilization of hospital emergency departments, the proper role for these departments in the provision of primary medical care, and the quality of emergency medical care. In response to this growing concern, numerous studies of emergency medical services have been initiated in recent years at state and national levels. The American Medical Association, the American Hospital Association, the National Research Council, and numerous other public and private organizations have recently published reports concerning various aspects of emergency care systems and the delivery of emergency medical services.[3]

These studies are useful in determining trends and in providing broad guidelines for localities to use in developing emergency care systems. However, each community and each hospital has unique problems and circumstances that must be considered in striving to cope with changing patterns of emergency department utilization. To understand and deal with rising emergency department utilization in a particular hospital or community, it is necessary to define the phenomenon as it occurs in that specific setting. The purpose of this article is to describe an approach to studying emergency department utilization that has been employed in one hospital and, briefly, to

Mr. Wood is Assistant Administrator, The Columbus Medical Center, Columbus, Georgia. When this study was conducted, he was an administrative resident at Richmond Memorial Hospital, Richmond, Virginia. Dr. Prybil is Chairman, Department of Hospital and Health Administration, School of Allied Health Professions, MCV-VCU, and is a member of the Governor's Advisory Committee on Emergency Medical Services. Mr. Simpson is Senior Vice-President and Administrator, Richmond Memorial Hospital.

describe certain results of that study. It is felt that this methodology might have application in other settings and the results will be of interest to persons who are giving consideration to a study of emergency department utilization in their community.

Factors Influencing the Utilization of Hospital Emergency Departments

The past two decades have witnessed a dramatic increase in emergency department visits throughout the nation. The number of visits to the emergency departments of nonfederal, general hospitals showed an increase of over 300 percent from 1954 to 1970. In the five-year period 1965 to 1970, the number of visits rose from 28.7 million to 42.7 million, an increase of more than 14 million.[4] While the rate of increase has lessened somewhat, the rise in the absolute number of visits is continuing to grow markedly.

A myriad of factors has contributed to the pattern of rising utilization across the nation. Among the principal factors are the following:

The advent of medical specialization and the gradual decrease in the number of general practitioners has reduced the availability of primary or first-contact medical care. The growing difficulty experienced by many persons in gaining ready access to the personal services of private physicians has led to increasing reliance upon the hospital emergency department as a source of medical services.

The general hospital is tending to develop into a community health center and is increasingly viewed by patients and physicians as the locus for a broad spectrum of health care—ambulatory as well as inpatient. Additionally, patients find the emergency department relatively convenient because it is usually accessible and available 24 hours a day.

Various population trends including annual growth, the increased numbers of aged citizens, greater prevalence of chronic disease, rising accident rates, and the geographic mobility of the American population.

Financial considerations including the customary pattern whereby third-party payers cover the cost for ambulatory services provided in emergency departments but not in physicians' offices.[5]

These and other factors have led to a situation where many emergency departments are faced with an unprecedented number of patients, many of whom are seeking routine or non-urgent care. This demand has sorely overtaxed the capabilities of these institutions and is leading many hospital officials to re-examine their emergency department and its workload. Such was the case at Richmond Memorial Hospital in Richmond, Virginia, in 1972.

The Richmond Memorial Hospital Study

Richmond Memorial Hospital is a nonprofit community hospital located in the northeastern section of Richmond. It is a short-term general hospital with approximately 512 beds and its emergency department is the second most active (next to Medical College of Virginia Hospital) in the metropolitan area.[6] Geographically, Richmond Memorial Hospital is situated in a neighborhood that was once affluent but which has experienced socioeconomic change in recent years. Along with the Medical College of Virginia Hospital, Richmond Memorial Hospital has become a significant institutional provider of health services to the inner-city population.

Consistent with the national pattern, Richmond Memorial Hospital's emergency department experienced a sharp increase in utilization during the past decade. The number of patient visits increased from 15,070 in 1961 to 38,812 in 1971, an increase of 157 percent. This contrasts to an increase of only 19 percent in the population of the Richmond Metropolitan Area during approximately the same period.[7] The institution had responded to increased demand in various ways including the provision of full-time physician staffing in 1963 and some expansion of physical facilities in 1965. However, as the number of patient visits continued to rise, it became evident to hospital administration and medical staff that

existing capability was being overwhelmed and that major effort was needed to plan the future development of the emergency department and its services.

To provide a partial basis for such planning, a study was initiated in January, 1972. The basic aim of this investigation was to describe emergency department utilization patterns and patient characteristics. Eleven specific research objectives were adopted to provide direction for the study and to insure that the research effort would generate data considered necessary in the planning process.[8]

Research Methodology

Having established the overall purpose and objectives of the study, efforts were directed at establishing a research methodology that would permit these objectives to be attained efficiently and effectively. This methodology is fully described in the final report of the study;[9] the following text briefly outlines certain key components of the methodology.

Data Collection. The purpose and objectives of the study necessitated the collection of substantial data concerning emergency department patients. These data were gathered from three sources: (1) a specially-designed form completed by the emergency department clerk based on information obtained from the patient at registration; (2) another specially-designed form completed by medical personnel treating the patient; and (3) the patient's medical record. (Data taken from the medical record were immediately recorded on a third, specially-designed form.) In designing the data collection system and forms, efforts were made to minimize inconvenience to patients and staff and yet yield complete and usable information for subsequent analysis.[10]

Data was collected concerning all patients who utilized the emergency department during the seven-day period from January 21 through January 28, 1972. This approach provided information on 738 patients, or approximately two percent of the annual emergency department workload. While a longer period of study would have been desirable, it was felt that a seven-day period would provide an adequate base of information for initial planning purposes. The study was designed to yield baseline data; future studies using the same approach and format will enable comparisons with this baseline.

Staff orientation. Clearly, the success of the study was dependent upon the effective involvement of hospital employees and physicians in collecting the data. To educate employees who would be involved in data collection, several steps were taken. First, orientation sessions were held with every nurse and clerk to explain the research objectives and data collection procedures. Second, each individual was given a written explanation concerning the activities in which they would be involved. Written material explaining the study was also posted in the work area for ready reference and the administrative resident who conducted the study made himself available to answer any questions and resolve problems. The administrative resident, a graduate student in hospital administration at MCV-VCU, discussed the study individually with full-time emergency department physicians to insure they were familiar with its objectives, methodology, and data collection procedures.

Pilot Study. After the data collection procedures were developed and staff orientation sessions completed, a pilot study was conducted as a pre-test of the overall approach. This consisted of a four-hour data collection period covering approximately 25 patients. No major problems were encountered during this trial run, and consequently the only resulting changes involved slight modification in the data collection forms.

Data Analysis. Data collection forms used in the study were specifically designed to serve as direct input sheets for keypunching and, after the data collection phase was completed, data were transferred to computer cards for subsequent processing. This approach saved considerable clerical time and permitted rapid and efficient data analysis using automatic data processing equipment. Numerous bivariate

analyses were conducted involving important variables such as age, residence location, and insurance coverage.

Limitations. There were, of course, several limitations to the study and its methodology. Perhaps the most basic was that it focused upon the utilization of a *single* emergency department and, therefore, did not provide a community-wide analysis. Clearly, there is a great need for community-wide and regional planning for emergency medical services, and such planning must be based upon system-wide studies. However, there is also a real need for sound planning at the institutional level and this study was directed at providing an information base for that purpose.[11]

The study was also limited in that it covered only a seven-day period and that it considered only selected facets of emergency department utilization. Clearly, a more comprehensive study could have generated a larger information base; however, restrictions of time, manpower, and other resources required hospital officials to limit the study in these ways.

Finally, while the data collection forms and procedures proved quite workable, there were some aspects that could have been improved. For the most part, these involved the wording of a few items on the forms. This only emphasizes the need for rigorous pre-testing of data collection instruments prior to their use in full-scale studies.

Selected Research Findings

The study yielded results that were both interesting and useful in the institutional planning process. The following text briefly describes some of these findings.

Arrival patterns. Information concerning the distribution of workload is quite important for purposes of planning and staffing to meet the demand for emergency services. Accordingly, patient visits during the seven-day period of this study were recorded by day of the week and by time of day.

Table 1 presents the distribution of patient visits by day of the week. The heaviest volume of visits was experienced on Sunday when 155 patients, 21 percent of the weekly total, were treated. Saturday and Monday were also relatively busy days in the emergency department. These data suggest some "bunching" over the weekend period, a phenomenon that may be related to the availability of private physicians for office appointments on weekends.

TABLE 1

Distribution of Emergency Department Patient Visits by Day, January 21-28, 1972

Day	*No. of Patients*	*% of Weekly Total*
Saturday	113	15.3%
Sunday	155	21.0
Monday	119	16.1
Tuesday	88	11.9
Wednesday	84	11.4
Thursday	90	12.2
Friday	89	12.1
Total	738	100.0%

Table 2 presents the distribution of patient visits by time of day. The 3:00-11:00 p.m. or "evening" shift is the busiest with 47 percent of all patients. The two-hour interval with the highest volume of patients is 6:00-8:00 p.m.: 16 percent of all patient visits occurred during this period. These findings closely parallel the results of similar studies in other metropolitan areas.[12]

TABLE 2

Distribution of Emergency Department Patient Visits by Shift, January 21-28, 1972

Shift	*No. of Patients*	*% of Weekly Total*
7:00 a.m.- 3:00 p.m.	278	37.7%
3:00 p.m.-11:00 p.m.	346	46.9%
11:00 p.m.- 7:00 a.m.	114	15.4%
Total	738	100.0%

Mode of arrival. Each patient or his sponsor was asked how he had reached the hospital. It was found that 83 percent came by private auto while only 14 percent were brought by ambulance. The remainder came by various other means such as taxi or bus. These findings are also quite similar to studies in other metropolitan areas. In the Chicago study, for

example, it was found that 15 percent of patients were brought to emergency departments by ambulance. A study in Rochester, New York, found that 11 percent arrived by ambulances.[13] The ability of most patients to reach the emergency department without an ambulance suggests they are experiencing relatively routine medical problems rather than catastrophic illness or injury. The severity of patients' conditions were specifically considered in another part of the study at Richmond Memorial Hospital.

Severity of Patients Treated. It is clear that the severity of the patients' problems is a key factor in the workload of an emergency department. Therefore, in planning for future development of the hospital's outpatient activity, it is necessary to assess the severity of patients treated in the emergency department. Patients seen in the Richmond Memorial Hospital's emergency department during the period of this study were classified by the treating physician as "non-urgent", "urgent", or "emergent" according to standard definitions.[14]

The results of this seven-day study showed that 64 percent of the patients had illnesses or injuries rated as non-urgent, 29 percent were urgent, and only 7 percent were emergent. It was also found that 89 percent of the 738 patients seen during that period were treated and released; only 11 percent needed to be hospitalized. These findings are consistent with the national pattern and indicate clearly that a large proportion of patients who use the emergency department are not seriously ill or injured, but rather are seeking primary medical care.

Availability of a Family Physician. Whether or not an individual has a "family physician" and this physician's availability directly affect the likelihood that the individual will turn to a hospital emergency department when he perceives a need for medical care. Each patient (or his sponsor) included in this study was asked to provide information concerning this subject. Of these patients, 23 percent stated that they did not have a family physician, 16 percent indicated that their family physician was not available to provide treatment prior to their coming to the emergency department, and 10 percent said their family physician referred them to the emergency department for treatment. Thus, 49 percent of all visits resulted from the patients either not having a family physician or not having access to their family physician at the time they were seeking medical care.

Summary and Conclusion

Consumers and health professionals are being increasingly concerned about the hospital emergency department and its utilization. Many emergency departments across the country are experiencing increased utilization and hospital officials are seeking ways to cope with this demand. The study described in this article represents an effort by one community hospital to provide a basis for planning through an investigation of its emergency department utilization and patient characteristics.

Institutional studies of this type are not a substitute for comprehensive community-wide investigations of emergency care and emergency care systems; however, institutional studies can provide useful insight and information for institutional planning. The study described in this article clearly revealed the fact that a substantial proportion of emergency department patients did not have access to a family physician and were using the emergency department as a source of primary medical care. This finding was a major factor in a subsequent recommendation by hospital administration to the board of trustees calling for conversion of the emergency department into an "ambulatory care center." The plans for the ambulatory care center include a trauma unit designed to provide care for the truly emergent patient and other components designed to serve patients with less acute needs. The ambulatory care center would have a triage mechanism to separate patients according to the urgency of their medical needs and direct them to the appropriate unit for treatment. Final approval of this plan is contingent upon the availability

of funds to support the building program which has been approved by the Capital Area Comprehensive Health Planning Council. It is believed that the new ambulatory care center will meet patient needs more appropriately and effectively, and the study briefly described in this article provided the basis for its planning.

Bibliography

1. The term "emergency care system" is defined as a community or regional network of services that provide for detection and reporting of medical emergencies, initial care at the scene, transportation and care en route to a medical facility, and care of the patient until he is discharged, referred, or admitted for definite medical care. American Hospital Association, *Emergency Services* (Chicago: AHA, 1972), p. viii.
2. A host of studies have found that one-third to one-half of patient visits to hospital emergency departments can be classified as non-urgent. For example, see: E. C. Shortliffe, *et al*, "The Emergency Room and the Changing Pattern of Medical Care," *New England Journal of Medicine*, 258 (January 2, 1958), pp. 20-25; P. A. Skudder, *et al*, "Hospital Emergency Facilities and Services: A Survey," *Bulletin of the American College of Surgeons*, 46 (March-April, 1961), pp. 44-50; G. Gibson, *Emergency Medical Services in the Chicago Area* (Chicago: The University of Chicago, 1970), Chapter 6, pp. 183-231; H. A. White and P. A. O'Connor, "Use of the Emergency Room in a Community Hospital," *Public Health Reports*, 85 (February, 1970), pp. 163-168; G. Perkoff and M. Anderson, "Relationship Between Demographic Characteristics, Patient's Chief Complaint, and Medical Care Destination in an Emergency Room," *Medical Care*, 8 (July-August, 1970) pp. 309-323; A. Jacobs, *et al*, "Emergency Department Utilization in an Urban Community," *JAMA*, 216 (April 12, 1971), pp. 307-312; J. Roth, "Utilization of the Hospital Emergency Department," *Journal of Health and Social Behavior*, 12 (December, 1971), pp. 312-320; and E. Davis, "Study Shows Who Comes to the Emergency Room and What Happens to Them After They Get There," *Modern Hospital*, 120 (June, 1973), pp. 84-87.
3. For example, see American Medical Association, *Categorization of Hospital Emergency Departments* (Chicago: AMA, 1971); American Hospital Association, *Emergency Services* (Chicago: AHA, 1972); and National Research Council, *Accidental Death and Disability: The Neglected Disease of Modern Society* (Rockville, Md.: U.S. Department of Health, Education and Welfare, 1970).
4. American Hospital Association, *Emergency Services* (Chicago: AHA, 1972), pp. 5-6.
5. *Ibid.*, p. 6. For a detailed compilation of factors that affect emergency department utilization, see M. L. Webb, "The Emergency Medical Care System in a Metropolitan Area," unpublished doctoral thesis, Johns Hopkins University, 1969.
6. See Lawrence Prybil and Gabriel Hilkovitz (eds), *The Richmond Metropolitan Area Emergency Care System: An Initial Investigation* (Richmond: Capital Area Comprehensive Health Planning Council, 1972), esp. Chapter IV.
7. The population of the Richmond Metropolitan Area (the Standard Metropolitan Statistical Area as defined by the U.S. Census Bureau) increased from 436,044 in 1960 to 518,319 in 1970, an increase of 18.8 percent. U.S. Department of Commerce, *General Demographic Trends for Metropolitan Areas, 1960-1970: Virginia* (Washington, D.C.: U.S. Department of Commerce, Bureau of Census, 1971), p. 48-13.
8. Briefly stated, these eleven objectives were: (1) to develop a patient profile including address, age, sex, marital status, race, and insurance coverage; (2) to determine emergency department utilization by day of week and hour of day; (3) to determine the means of transportation used by patients to reach the hospital; (4) to determine the proportion of patients who have a family physician; (5) to determine the proportion of patients who attempted to get medical help prior to coming to the emergency department; (6) to determine the principal reasons why patients came to Richmond Memorial Hospital emergency department; (7) to determine the number of "repeat" users of the emergency department; (8) to determine who rendered treatment to the patient (emergency department physician, attending physician, on-call physician, or/and other); (9) to determine the medical clas-

sification of patients; (10) to determine the severity of patients' condition; and (11) to determine the number of patients admitted to the hospital through the emergency department.

9. The study was conducted by James Wood, an administrative resident at Richmond Memorial Hospital and a graduate student in the Department of Hospital and Health Administration at MCV-VCU, as his major, second-year research project. See James Wood, *Richmond Memorial Hospital Emergency Room: A Descriptive Study of the Patient Population and Utilization Patterns*, unpublished research project, Medical College of Virginia-Virginia Commonwealth University, 1972.
10. Copies of the forms used in data collection are available upon reader request.
11. A later investigation conducted by the MCV-VCU Department of Hospital and Health Administration under auspices of the Capital Area Comprehensive Health Planning Council provided a community-wide study of selected aspects of the Richmond Metropolitan Area emergency care system. See Prybil and Hilkovitz, *op. cit.*
12. For example, see *Emergency Medical Services in the Chicago Area, op. cit.*, p. 203; and "Study Shows Who Comes to the Emergency Room and What Happens to Them After They Get There," *op. cit.* p. 85.
13. *Emergency Medical Services in the Chicago Area, op. cit.*, p. 206, and A. Jacobs, *et al*, "Emergency Department Utilization," *JAMA*, 216 (April 12, 1971), p. 308.
14. The index of severity has been used in several previous studies and is recommended by the American Hospital Association. The categories and definitions are as follows:

    Scheduled: Any patient scheduled in advance for treatment (such as minor surgery).

    Emergent: The patient requires immediate medical attention; the disorder is acute and potentially threatens life or function.

    Urgent: The patient requires medical attention within a few hours; the disorder is acute, but not necessarily severe; there is danger to the patient if he does not receive prompt care.

    Non-Urgent: The patient does not require the resources of an emergency service; the disorder is minor and non-acute.

Department of Hospital and Health Administration, School of Allied Health Professions
Box 203 Medical College of Virginia
Richmond, Virginia 23298

Clinical Center Study of Patients with Hypogonadotropic Hypogonadism

The cooperation of physicians is requested in the referral of men with Hypogonadotropic Hypogonadism for a study of the treatment of this condition being conducted by the National Institute of Child Health and Human Development's Reproduction Research Branch, at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Physicians interested in information about this study or in having their patients considered for admission may write or telephone: Dr. Richard J. Sherins, Reproduction Research Branch, National Institute of Child Health and Human Development, National Institutes of Health, Bldg. 10, Room 12-N-208, Bethesda, Maryland 20014. Telephone: 301-496-3079

Cancer Trends....

Edited by—

WALTER LAWRENCE, JR., M.D.
Richmond, Virginia

J. SHELTON HORSLEY, III, M.D.
Charlottesville, Virginia

Post-Mastectomy Lymphedema

MORTON C. WILHELM, M.D.
PATTON B. SAUL, B.A.
JUDYTH A. MORGAN, R.P.T.

Swelling of the arm after mastectomy often occurs in the postoperative period. It may occur within seven to ten days as a result of operative trauma, or two to three weeks later secondary to wound infection or delayed healing. In either case, response to logical therapy is usually excellent. It is the painless swelling that occurs on a chronic basis, usually delayed in onset, that will be the focus of this presentation.

Variability in the definition of edema of the arm makes incident figures difficult to obtain. In a prospective study, Healey[1] cites an incidence of 39 per cent but does not define the degree of swelling. Stillwell[2] has recommended that swelling be expressed as a percentage of the normal arm. This seems more relevant than absolute volume differences, since 300 cc's of swelling is of more concern in a 1500 cc limb than in a limb of 3000 cc's volume. Using this approach, moderate edema is expressed as 21 to 40 per cent of the volume of the normal limb. Interpretation of published figures leads to the assumption that approximately 10 to 12 per cent of the patients having mastectomies will be bothered with a moderate degree of swelling. This may be an insignificant incidence in a given practice, but on a state-wide basis it represents a problem. In Virginia, 1800 new cases of breast cancer are estimated for 1974. Conservatively, this means an addition of at least 100 new cases of lymphedema of a moderate degree to the existing pool. An appreciation of these numbers makes a program for management desirable in our State.

Pathophysiology

The basic cause of post-mastectomy lymphedema is lymphatic obstruction. Removal of the axillary nodes and lymphatic pathways results in relative lymphatic insufficiency in the extremity. An adequate deltopectoral pathway, as well as the expansion of collaterals, affords adequate drainage in the majority of individuals. Damage to these pathways by infection, radiation and/or fibrosis will lead to development of significant edema of the arm.

Inability of the lymphatics to remove protein from tissue spaces results in an abnormal concentration of protein, which in turn increases colloid osmotic pressure and draws more fluid into these spaces. The retention of this excess fluid results in a marked stretching of tissues, with subsequent loss of tone and lowering of hydrostatic pressure. Failure to control swel-

From the University of Virginia Medical Center, Charlottesville.

Sponsored by the Professional Education Committee, Virginia Division of the American Cancer Society.

ling, thus allowing a persistent high protein concentration in tissue spaces, will lead to fibrosis and potential irreversible damage. Venous obstruction is thought to be infrequent in the majority of cases; however, when extensive fibrosis or contracture of the axilla is present, it should be considered as an etiologic factor which may be amenable to treatment. Recurrence or persistence of tumor should be considered in all cases. Fortunately, this is usually easily determined and fairly infrequent.

Prevention

The measures that seem significant in prevention of arm lymphedema can be categorized as follows:

A. Operative
B. Early Postoperative
C. Late Postoperative

A. *Operative*—Gentle handling of tissues, particularly the axillary vein, is important. The incision should not extend down the arm to avoid unnecessary damage to lymphatics. If at all possible, it should be away from the axilla, reducing the likelihood of contracture. The clavicular portion of the pectoralis major muscle should be preserved to protect the axillary vessels and provide further lymphatic pathways for drainage.

B. *Early Postoperative*—Avoidance of fluid collections beneath the flaps and in the axilla by the usage of suction drainage will promote primary healing and reduce infection. Constrictive bandages should be avoided so as to allow motion of the extremity and drainage in those lymphatics that remain. Antibiotics should be used if there is any suggestion of infection or delay in wound healing, thus preventing further damage to existing lymphatic pathways. Elevation of the arm to aid drainage and elastic support to aid tissue tone are simple, effective and important measures to be remembered.

C. *Late Postoperative*—This largest group of patients can hopefully be reduced by early and repeated education of the patient on the care of the arm. They must appreciate the necessity of protecting the arm from insult; that is, infections which might result from splinters, thorns, hangnails, injections, infusions and burns, including sunburns. Excessive heat, such as hot baths or compresses, and prolonged use of the extremity by repetitive motions, strenuous pulling or lifting, will increase the demand on the existing lymphatic pathways and produce more swelling.

Our Study

A program for management of patients with lymphedema on an out-patient basis was developed through the Physical Therapy Department of the University of Virginia and the Virginia Division of the American Cancer Society. The program was initiated for a one-year trial period, and referrals from area physicians were solicited.

Over a 12-month period, the program received 24 patient referrals, 19 of whom were suitable for this study. The excluded patients, some of whom were treated, had evidence of severe recurrent disease, pathologic fractures and/or other medical problems. All patients had a long history of troublesome post-mastectomy lymphedema which had failed to respond to simple management methods. The average age of the group was 60.4 years. Seventeen of the patients had undergone radical mastectomy, and 16 received postoperative radiation therapy. Four patients gave a definite history of delayed wound healing or significant infection in the postoperative period. Of these, three developed lymphedema within three months of their surgery. Only one patient in the group showed evidence of active infection, and she was treated with antibiotics before entering the treatment program. Five patients showed some limitation in range of motion of the extremity. Of the 19 patients, 15 (79 per cent) had edema which involved the extremity from the wrist to the shoulder, and four (21 per cent) had edema from the elbow to the shoulder. All edema was of the pitting type.

Initial water displacement measurements revealed a slight amount (11-20 per cent) of edema in five (26 per cent) of the patients. A moderate amount (21-40 per cent) occurred in nine (47 per cent), and a marked amount (41-80 per cent) in five (26 per cent.) Eight patients had been seen by a Reach to Recovery volunteer in the postoperative period; however, four patients out of the entire group had received no instructions on care of the extremity or proper exercises.

Treatment Protocol

Each patient was interviewed extensively in an effort to determine the exact type of operation, history of delayed healing, time of onset of swelling in relation to surgery, history of radiotherapy and any education or supportive measures that had been previously prescribed. Physical examination noted the location and type of incision, evidence of delayed healing and/or contracture, limitation in range of motion of the shoulder, sub-clinical infection and evidence of recurrent disease.

Water displacement measurements were obtained on both arms before treatment, and on the involved extremity each week for four weeks and then one month and two months after the treatment period. The amount of edema, that is the difference in volume between the arms, was expressed as a percentage of the volume of the normal limb.

Treatment of infection with antibiotics for a seven- to ten-day period was the initial step in management wherever applicable.

Centripedal mechanical massage with the limb elevated, utilizing an intermittent pneumatic compression sleeve (Circulator), was carried out at pressures of 40 to 60 mm. of mercury for one hour a day, five days a week, for four weeks in the Department of Physical Therapy.

Digital massage from shoulder to hand was encouraged daily by the patients for a period of 10 to 20 minutes. Where possible, family members were instructed in the technique of digital massage.

Elevation of the extremity on pillows at night and avoidance of sleeping on the involved limb were repeatedly emphasized.

All patients were carefully instructed on the proper use of the arm in order to prevent dependent edema while standing, walking and sitting. Simple isometrics were taught, in addition to exercises to assure good shoulder and arm function.

At the conclusion of the third week, each patient was fitted for a custom-made elastic pressure gradient sleeve (Jobst) which extended from wrist to shoulder. At the end of the fourth week, the sleeve was applied and the patient instructed to wear the support from morning to night until evidence of edema had disappeared. No elastic support was utilized in the study during the actual treatment phase. At the conclusion of the initial four weeks, all patients were encouraged to continue the entire treatment program, except for the use of the pneumatic compression sleeve.

Results

Improvement, both subjective and objective, in this group of referred patients was gratifying. In all cases the arm felt lighter, seemed easier to use and made the adjustment to clothing less of a problem. Psychologically, the reduction of limb size diminished the feeling of deformity after a mastectomy. The mere knowledge that an aggressive treatment program was available did much to relieve the frustrations that had arisen over the inability to obtain relief. Upon the completion of the one-month intensive therapy program, 75 per cent of the patients showed a decrease in edema. This improvement progressed as evidenced by the one-month and two-months followup measurements. Eighty-three per cent had reduction of swelling at the end of one month, and 93 per cent had evidence of decreasing edema at the end of the two months. The results were even more striking when the degree of change was noted. Initially, 73 per cent of the patients had edema of moderate to marked degree. At the end of one

month of intensive therapy, 50 per cent of the patients remained in this category. Two months after the therapy program was completed, only 33 per cent of the patients were still in this group.

Comment

The objective data from this small group of patients do indicate that an aggressive treatment program can offer significant relief from post-mastectomy lymphedema. It is difficult to identify which aspect of therapy contributed the most to this improvement. A complete program is important; it is our impression, however, that use of the pneumatic compression sleeve plays a significant role in the management of this condition.

A Program for Management of Post-Mastectomy Lymphedema.

Successful management of post-mastectomy lymphedema may be divided into two phases:

Phase I. Patient Education—Careful and repeated patient education, not only in the management of limb swelling but in its prevention, should be a must for every mastectomy patient. Valuable assistance in this area can be gained through the use of the trained Reach to Recovery volunteer, as well as nurses and physical therapists. The primary responsibility, however, rests with the surgeon. The patient must understand the necessity to avoid those things which might lead to infection, such as hangnails, thorns, cuts on the finger, pinpricks, injections or infusions. Sunburn, hot baths or compresses are to be avoided, since they increase the demand for drainage in the extremity. Any type of constriction, such as clothing, tight watchbands or jewelry, may further damage existing lymphatics and should be avoided. The patient must understand that in the majority of cases swelling of the arm is reversible, but if ignored it may lead to tissue damage which makes treatment difficult.

Phase II. Careful history and physical examination of the involved extremity and operative area should be carried out in an attempt to determine the etiologic factors in the development of the lymphedema. It is most important that any evidence of infection be identified and proper treatment with antibiotics be given before proceeding with the therapy program. Evidence of recurrent disease is important to determine; however, some of these individuals may be helped symptomatically by the treatment program.

Patients should be instructed in the techniques of digital compression of the extremity, preferably in a centripedal fashion, beginning at the shoulder working distally. This should be carried out 10 to 20 minutes at the end of each day. If possible, family members should be instructed in this technique, as they may be more effective, particularly in the management of the severely swollen arm. Digital massage serves to break up lymphatic pools that tend to collect in the subcutaneous tissues.

A pneumatic compression sleeve used on a regular basis is a significant help in mobilizing fluid from the involved extremity. Its use one hour a day, five days a week, for a period of one month is effective, is well tolerated by the patient and can be administered as an outpatient procedure. The pressure should be set at a range of 40 to 60 mm. of mercury but should never exceed the patient's diastolic pressure. Utilization of the pneumatic compression sleeve in this manner has yielded results comparable to those of program requiring intensive compression for many hours on an in-patient hospital basis.

Elevation of the extremity for varying periods during the day and at night on pillows or on specially made "arm edema stands" [2] is an important measure, particularly in those individuals with marked edema. Isometrics tend to promote lymphatic drainage, and shoulder exercises as outlined in the Reach to Recovery Manual assure good range of motion.

Firm elastic support is necessary to aid in the mobilization of edema and prevent its reaccumulation. Elastic bandages may be uti-

lized for this purpose; it is our feeling that the arm should be wrapped between the compression treatments and until a custom-fitted elastic sleeve is obtained. The significant loss of edema during intensive treatment has led us to recommend the use of elastic bandages during this period, and to reserve the pressure sleeve for use at conclusion of this phase of therapy. Elastic support must be maintained until tissue tone and tissue hydrostatic pressure can return to a sufficient degree to maintain a state of equilibrium in the extremity.

Summary

Post-mastectomy lymphedema is a significant problem to the affected individual. Patient and physician education may lead to its prevention and most certainly will lead to its recognition as a potentially disabling affliction, both psychologically and physically. Our experience over the past year with a small group of symptomatic patients, carefully evaluated and supervised, has led to the development of a program of management which is logical in its concept, simple in its execution and effective in achieving results. It is a program adaptable to the various communities of our State.

Acknowledgment. The entire staff of the Physical Therapy Department of the University of Virginia enthusiastically participated in this program, and without their help it would not have been possible. The Virginia Division of the American Concer Society also contributed significantly to this program.

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1. Healey, John E., Jr. and Villanueva, Paul: Rehabilitation of the Cancer Patient. Year Book Medical Publishers, 1972, p. 198.
2. Stillwell, G. Keith: Treatment of Post-Mastectomy Lymphedema. Modern Treatment 6, 1969, p. 396.

COMMENTS

The American Cancer Society has been at the forefront in stressing the importance of the quality of survival. This program is an excellent demonstration of how this can be done. Of great significance is the cooperation between the referring physicians in the community, the patients, the Service and Rehabilitation Committee of the American Cancer Society and the hospital-based Physical Therapy Department, all working together to bring about the success of such a program.

The Editors

New Treatment for Sunburn

A new treatment for sunburn that dramatically reduces redness and relieves some other symptoms is reported in the Medical News Section of the January 28th issue of the *Journal of the American Medical Association.*

Aspirin and the drug indomethacin were used by Diane Snyder, Ph.D., and William Eaglestein, M.D., of the University of Miami.

Aspirin is given by injection. Indomethacin is applied to the sunburned skin. The redness cleared and the patients were free of pain within a few hours of the application of indomethacin. Similar results were achieved with a dose of aspirin in salt solution given by injection.

Indomethacin is a drug used primarily in the treatment of arthritis.

The new techniques were first tested on animals and then on 25 human subjects. Some of the volunteers were "sunburned" by ultraviolet light. Others got their sunburn in the normal way, by too much exposure to sunlight.

Thus far no side effects have been found.

Medical Grand Rounds . . . .

From The Medical College of Virginia

Hypertensive Encephalopathy

Recent Developments in Pathogenesis as Related to Treatment

Edited by

DAVID W. RICHARDSON, M.D.
HERMES A. KONTOS, M.D.
WILLIAM I. ROSENBLUM, M.D.
EMMETT C. MATHEWS, JR., M.D.

Dr. David Richardson: Hypertensive encephalopathy is altered function of the brain attributable to raised blood pressure. The clinical manifestations of encephalopathy: confusion, coma, or convulsions, indicate generalized rather than focal cerebral dysfunction. The strongest evidence that these symptoms are attributable to high blood pressure is their disappearance when blood pressure is reduced. Criteria for the clinical diagnosis of hypertensive encephalopathy, then, are confusion, convulsions, or coma which subside with reduction in blood pressure. Severe, persistent headache is a common predecessor; retinal hemorrhages, exudates and papilledema are common concomitant findings, as is very high blood pressure, exceeding 240/140 mm Hg. Hypertensive encephalopathy sometimes occurs with less marked elevations of arterial pressure, especially in situations where blood pressure rises acutely and where generalized edema is prominent as in toxemia of pregnancy or acute nephritis. Renal failure, though common in patients with hypertensive encephalopathy, is *not* a necessary background.

The abnormalities of cerebral structure and function responsible for hypertensive encephalopathy are not perfectly understood. Two chief theories of the pathogenesis of encephalopathy have developed:

1. Cerebral ischemia, produced by constriction of cerebral arterioles in direct response to the extreme elevation of blood pressure. Marked narrowing of retinal arterioles is visible in patients with hypertensive encephalopathy, but there is little else to support this hypothesis.

2. Cerebral edema. Normotensive rats given intravenously a blue dye which binds tightly to plasma albumin show no blue staining of the brain. Rats made severely hypertensive by narrowing a renal artery develop convulsions and have wide-spread, patchy blue staining of the brain. Reduction of blood pressure by removal of the renal arterial clip relieves the convulsions and the blue staining of the brain (Byrom, F.B., The Hypertensive Crisis. Grune and Stratton, New York, 1969). Severe hypertension produces leak of protein (and water) from cerebral vessels. Does hypertension damage the *structure* of the arterial vessels so they leak, or is there abnormality of the *function* of cerebral arterial vessels; namely inadequate arteriolar constriction with rise in cerebral capillary hydrostatic pressure sufficient to unbalance the starling equilibrium and produce edema?

Dr. Hermes Kontos will review the abnormal functional response of the cerebral circulation to marked elevation of blood pressure,

Presented at Medical Grand Rounds on February 26, 1974, at the Medical College of Virginia, Health Sciences Division, Virginia Commonwealth University.

following which Dr. William Rosenblum will present the structural abnormalities attributable to hypertension.

Dr. Hermes Kontos: Arterial blood pressure is one of the most important factors controlling blood flow to various organs. The responses of vascular beds to alterations in blood pressure can be classified in one of two broad categories: passive and autoregulating vascular beds. The pressure-flow curve of a passive vascular bed is characterized by progressively greater increases in flow as the blood pressure rises. On a vascular resistance-pressure plot this is reflected in a declining resistance as the blood pressure rises. This behavior is the result of the fact that as the blood pressure, and hence the transmural pressure, rises the vessels are passively distended, their caliber increases and therefore their resistance to flow decreases. The vessels in such a vascular bed behave like inert elastic tubes. Contrasted with this behavior are the responses of an autoregulating vascular bed. At the very low and at the very high pressure, the behavior of this vascular bed is identical to those described for a passive vascular bed. At an intermediate range of pressure, however, encompassing the normal range of blood pressure and extending to a variable degree on either end of this range the behavior is entirely different. The pressure-flow curve in this range shows that the blood flow remains fairly constant despite variation in blood pressure. (Fig. 1). On a resistance-

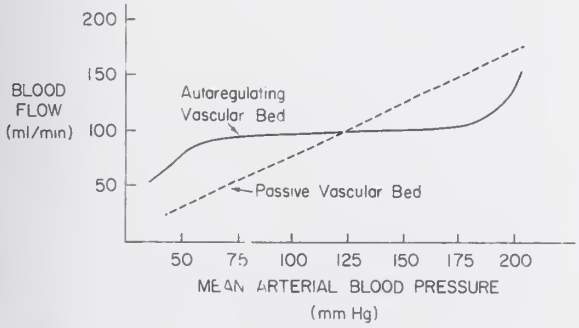

Figure 1

pressure curve, this is manifested by an increasing resistance as the blood pressure rises. This behavior is explained by active contraction of the vascular smooth muscle as the blood pressure rises. The result of this is that the passive distention of the vessels is overcome, the caliber of the vessels diminishes and therefore the resistance to flow rises maintaining blood flow almost constant despite the rise in blood pressure. Maintenance of nearly constant steady-state blood flow despite change in blood pressure is called autoregulation; it is a property shown by many vascular beds including the brain and is independent of neural or hormonal control.

There are two main theories to explain autoregulation. These are the myogenic and the metabolic hypotheses. According to the myogenic hypothesis, the vascular smooth muscle has the intrinsic ability to respond with contraction to stretch or increased tension. As the arterial blood pressure and the transmural pressure increase, the tension and stretch of the smooth muscle in the wall of the arteries and arterioles increase and the smooth muscle responds with contraction inducing a reduction in vascular caliber and hence an increase in the vascular resistance. The reverse occurs when the blood pressure decreases. According to the metabolic hypothesis, the vascular smooth muscle is continuously under the influence of vasodilator metabolites released by the surrounding tissue. If an increase in arterial pressure occurs suddenly, there is a transient increase in blood flow which results in increased washout of these vasodilator metabolites and hence in a decrease in their concentration. The result is a subsequent decrease in vessel diameter, an increase in resistance and constancy of steady-state blood flow despite increase in blood pressure. The reverse occurs when the blood pressure decreases; in this case there is a transient decrease in blood flow and an increase in the concentration of the vasodilator metabolites producing a net increase in vascular caliber. Which of these two mechanisms operates in any one vascular bed is still uncertain. At present, the most likely hypothesis is that both of these mechanisms are operative, but their importance and the extent to which

they contribute to the autoregulation of blood flow in any one vascular bed is variable.

Let us now turn to the cerebral vascular bed. It has been repeatedly demonstrated that the cerebral vascular bed displays autoregulation. This autoregulation is very vulnerable; it can be altered or completely eliminated under a variety of conditions. It has been shown for example, that hypercapnia and severe hypoxia can eliminate cerebral autoregulation. In addition, as a result of disease such as stroke or brain tumor, autoregulation may be eliminated.

Obviously it is of great importance to know what the upper and lower limits of autoregulation are in normal human beings as well as under different diseased conditions. One recent study (Strandgaard, S., et al: Autoregulation of brain circulation in severe arterial hypertension. Brit. Med. J. 1:507, 1973) attempted to determine the lower limits of autoregulation of cerebral blood flow in normotensive and hypertensive people. The study was carried out in four normal subjects and in ten hypertensive patients. Blood pressure was lowered stepwise by means which did not have a direct effect on brain vessels. At each level of blood pressure the brain blood flow was determined so that a conventional pressure-flow curve was obtained. Unfortunately, the method for measuring flow was only an indirect one based on the determination of the arteriovenous difference of oxygen across the brain, on the assumption that oxygen consumption of the brain remained equal to the control value. It was found that the lower limit of autoregulation at which brain blood flow began declining as the blood pressure decreased was variable and correlated well with the resting level of blood pressure. That is, the lower the resting blood pressure, the lower was the limit of autoregulation. In other words, if you are hypertensive, and your blood pressure declines, your brain blood flow would begin declining at a much higher level than in a normotensive individual. Another way of expressing this is to say that there is a shift in the pressure-flow curve of the cerebral circulation depending on the prevailing level of blood pressure.

Recent studies from our laboratory (Wei, E.P., Kontos, H.A., Raper, A.J. and Patterson, J.L., Jr.: Autoregulation of Pial Arterioles. Fed. Proc. 33:393, 1974) have a bearing on the mechanisms underlying the adjustments in blood flow in response to changes in blood pressure. These experiments were carried out in anesthetized cats equipped with a cranial window which permitted direct microscopic observation of arterioles 30-60 microns in diameter on the surface of the brain and measurement of their caliber. We found that when the blood pressure was reduced there was little change in vessel diameter until mean arterial blood pressure decreased below 80 mm Hg. Below this level there was a progressive marked dilation of the vessels, which reached a maximum of about 175% of control diameter at about 45 mm Hg.

More pertinent to hypertensive encephalopathy are the responses of the vascular bed to increases in blood pressure. As expected, in experiments in animals, rises in blood pressure are at first accompanied by no change in brain blood flow. Above a certain level, which is usually in the range of approximately 150 mm Hg, there is an increase in cerebral blood flow. Our own studies on arteriolar caliber in the cat show that the vessel diameter shows variable changes until the blood pressure rises above 175-200 mm Hg. Above this level there is a marked dilation of the vessels. Sometimes the dilated vessels are sausage-shaped with alternating dilated and narrow areas. The narrow areas usually have the same or larger diameter than the resting diameter of the vessel. In other words, they are not areas of actual constriction. Approximately 50% of the animals in which the blood pressure was elevated above 200 mm Hg showed dilations which were irreversible within the time limits of the experiment. The irreversibility was demonstrated by the fact that the vessels remained dilated after the blood pressure returned to the resting level and that they were no longer responsive

to stimuli which normally produced pronounced vasoconstriction, such as hypocapnia. For this reason, we believe that this dilation is the result of disengagement of the contractile elements in the vascular smooth muscle or to a destruction of the attachments of the muscle fibers to other structures. In one cat observed for several hours after return of blood pressure to normal the cerebral arterioles finally returned to their normal diameters. Other investigators have shown in similar experiments to ours that there is, in addition to the adverse effect on the vascular smooth muscle, increased permeability of the endothelium of the blood vessels demonstrated by leakage of labelled protein across the wall of these vessels. In cases where the sausage-type dilation occurred, the leakage occurred through the dilated areas. To summarize the experimental evidence then, it appears that when you raise the blood pressure to very high levels, there is damage to the smooth muscle of the vessels with dilation and damage to the vascular endothelium. The result of this is that you get not only edema from the increase in capillary pressure, as Dr. Richardson pointed out, but you also get leakage of fluid and protein into the wall of the arterioles. This may have something to do with fibrinoid necrosis.

Unfortunately, it is too early to say whether this sequence does happen in human beings. There are only three cases in which this was studied in man. (Skinhoj, E. and Strandgaard, M. Lancet 1:461, 1973). One patient was a 58 year old man who had cerebral atrophy and convulsions. His brain blood flow remained constant until his blood pressure was raised above 145 mm Hg. When his blood pressure increased above this level his blood flow increased by about 75%. The second patient was a patient with a brain injury who showed autoregulation up to a pressure of 165 mm Hg. Beyond this level he showed the expected increase in flow. The third patient was more interesting and perhaps the findings in this case were more relevant to hypertensive encephalopathy. This patient's blood pressure was 180/120 on admission. At that time his brain blood flow was 140ml/min/100g tissue which is about three times the normal level of brain blood flow. The patient then experienced a syndrome which was similar to what we recognize as hypertensive encephalopathy. He had convulsions, bilateral Babinski signs, confusion and coma. His brain blood flow was measured again and was found to be very low at 26ml/min/100g of tissue. At this time his intracranial pressure was elevated to 21 cm H_2O and had a few cells in the cerebrospinal fluid as well as increased protein. Perhaps cerebral edema accounted for the reduction in cerebral blood flow observed at this stage. Much more evidence is necessary to obtain a complete picture of the sequence of events which occur in cases like this. The available evidence, however, coupled with reasonable speculation would lead to the following hypothesis. The essential change is a sudden and severe increase in blood pressure which overcomes the normal autoregulatory mechanisms that maintain the brain blood flow constant. As the vessels dilate, the brain blood flow increases. The increased pressure damages the vascular smooth muscle and the endothelium of the vessels. The consequence of this is edema, because of increased capillary hydrostatic pressure and because of the increased permeability of the vascular endothelium. In addition there is exudation of water and plasma protein into the vessel wall which may lead to the development of fibrinoid necrosis. The brain edema may then lead to manifestations of disturbed brain function. It is easy to conceive of a later stage in this process when, as a result of the edema, brain metabolism is reduced and brain blood flow is decreased.

From the point of view of therapy, it is essential that the blood pressure be lowered as soon as possible. The experimental evidence suggests that the blood pressure should be maintained at a lower level for a relatively long time, perhaps several hours, before the dilation of the vessels subsides. One has to be careful not to overdo the reduction in blood pressure, remembering that the lower limit of autoregulation in hypertensive patients occurs

at a much higher level of pressure than in normal individuals. It appears also prudent to use means for reducing the blood pressure which would not further dilate the cerebral blood vessels.

Dr. Richardson: Dr. Rosenblum, are there structural abnormalities of the brain which explain hypertensive encephalopathy?

Dr. William I. Rosenblum: If you define hypertensive encephalopathy as diffuse cerebral dysfunction in the presence of a very high blood pressure, with reversibility of the cerebral symptoms when the blood pressure is reduced, then there is no single pathologic hallmark of hypertensive encephalopathy. One of the difficulties for pathologists has always been the problem of relating their pathologic findings to a distinct clinical entity known as hypertensive encephalopathy. The problem has been that it is very difficult to get clinical agreement concerning what does or what does not constitute hypertensive encephalopathy. If you define it very broadly, in the manner just indicated, then you must be prepared to find a wide variety of pathologic changes in the brain and this is indeed the case. I will now review these findings as well as some found in hypertensives without encephalopathy.

In almost every case of hypertension whether it's benign or malignant, whether it's accompanied by encephalopathy or not, there will be hypertrophy of the media, or muscle coat, of small arteries and arterioles.

Secondly, in the brains of hypertensive patients you will often find hemosiderin deposits in macrophages near the vessels. These suggest leakage of red cells from vessels somewhere in the brain. The leakage need not be from the closest vessel; the macrophages could have traveled in the Virchow-Robin space which is a sheath of cerebrospinal fluid encasing all the intracerebral arterioles. Red cell leakage is, of course, direct evidence that normal permeability barriers in the brain have been overcome, and this is in line with what Dr. Kontos was describing, since the leakage could have occurred through those dilated bead-like dilatations of small cerebral vessels. But these hemosiderin-laden macrophages are found in both benign and accelerated hypertension and are not confined to hypertensive encephalopathy.

The third structural abnormality found in the brains of hypertensive patients is fibrinoid necrosis in small arteries. This fact is directly relevant to what Dr. Kontos was talking about when he described transudation of plasma proteins into the walls of dilated segments of the arterioles. The fibrinoid material is really fibrin, a plasma protein which does, indeed, appear to have moved from the plasma into the vessels like renal arterioles, but cerebral arterioles appear to be especially sensitive to this change and will develop it in the absence of clinical malignant hypertension and in the absence of any such findings in systemic arterioles.

A beautiful study (Hill, G.S. and Heptinstall, R.G.: Am. J. Path. 52:1, 1968) of the development of fibrinoid necrosis in the renal arterioles of rats given steroids to induce hypertension shows conclusively that the fibrinoid material accumulates in dilated segments of the renal arterial vessels. One of their paragraphs sums this up beautifully and echoes what we are trying to say about the brain. "It appears that although increased pressure is a prerequisite for the development of hypertensive lesions, it is not pressure per se which is the cause immediately underlying that development but the inability of the vessels to withstand overdistention by this pressure. Ironically, it is not too vigorous contraction but inability to contract adequately that leads to vascular lesions. According to this concept, when vascular pressure is raised sufficiently, hypertensive lesions occur in those vessels in which there has been sufficient alteration of smooth muscle so that they are left unprotected from the effects of pressure."

In addition to providing evidence that dilated segments of arterioles leak plasma proteins, fibrinoid in small cerebral arteries is probably responsible for some of the massive intracerebral hemorrhages which complicate

hypertension. The arterial walls, weakened by fibrinoid necrosis, rupture. Fibrinoid necrosis also occurs in the walls of miliary aneurysms of cerebral vessels (Cole, F.M. and Yates, P.O., J. Path. Bact. 93: 393, 1967). These mini-aneurysms, 0.5 to 1.0 mm in diameter, occur on cerebral arteries 0.1 to 0.3 mm in diameter, particularly in basal ganglia and subcortical white matter. They are much more common in hypertensive than normotensive people, but are no more common in malignant than in benign hypertension. They are dramatically described by Pickering (High Blood Pressure, J and A Churchill, London, 1968, p. 305) who summarizes the evidence suggesting that miliary aneurysms are the usual structural abnormality underlying massive intracerebral hemorrhage. It is unlikely that these aneurysms account for hypertensive encephalopathy.

Finally, I want to discuss cerebral edema. There is evidence that hypertensive brains are edematous but that evidence is not brain weight. If you go by brain weight, it is very difficult to prove that a hypertensive brain was edematous because there is a wide range of normal weights. There are certain pathologic characteristics of edema that aid us, however.

Edema is basically a distribution of excess water in the deep white matter of the brain. In people who have been hypertensive for some time, there appears to be loss of tissue in the deep white matter of the brain, with sparing of the white matter zone that is immediately adjacent to the cerebral cortex. This spared zone is known as the arcuate zone or the zone of U fibers. Edema is the only pathologic process which we know of that distributes itself in this manner in the brain and so we attribute lesions distributed in this manner to edema. Many hypertensive patients, even without encephalopathy, have what appears to be a loss of substance in the deep white matter of the brain. They also have regressive changes in astrocytes in the deep white matter. Because these changes are preferentially distributed in the deep white matter, they suggest that the deep white matter was affected during life by edema, the only process which we know of that selectively affects deep white matter.

There is other evidence of cerebral edema or its product in brains of hypertensive patients. Analysis of water content shows that in comparison with the normal values, there is a significant increment in water content in hypertensives' brains and this increment is preferentially distributed within the deep white matter as expected of edema fluid. It is not found in the arcuate zone, in the cortex, or in the corpus callosum which are known to be relatively resistant to cerebral edema. These high water content values can come about in one of two ways, either excess water or loss of tissue. Either event will give an increment in percentage water when you compare wet weight versus dry weight. Even if these increased "water" values represent a loss of tissue rather than added water, we are again pointing out that the loss of tissue is preferentially located in the deep white matter, and thus suggestive of a pre-existing edema, which destroyed tissue. This evidence of edema is found in hypertensives whether or not they had encephalopathy.

In closing, from this pathologist's point of view, I would say that we have positive evidence that hypertensives get cerebral edema and its consequences, which can include tissue loss. Hypertensives definitely have evidence of transudation of plasma protein into the vessel wall in the form of fibrinoid. There is no reason to doubt that water also enters the vessel wall and goes all the way through the wall. From evidence gathered from renal studies and from observations of cerebral microcirculation, it would appear that this transudation of plasma protein and water occurs at areas of aneurysmal dilatation. Encephalopathy may or may not be related to periodic episodes of severe edema whose pathogenesis I have just described.

Dr. Richardson: Dr. Rosenblum has emphasized the *absence* of structural changes which clearly separate patients with encephalopathy from hypertensive people with no disorder of

consciousness. Dr. Kontos showed that acute elevation of arterial pressure in the cat can produce marked increase in the diameter of cerebral arterioles, which become unresponsive to normal vasoconstrictor stimuli such as hypocapnia. Increase in arteriolar diameter, with less drop in pressure across arterioles, would increase capillary intraluminal pressure and thereby favor the formation of edema. Furthermore, the arteriolar dilation may be irregular; in acutely hypertensive animals the cerebral arterioles look like strings of sausages with segments of normal diameter separating markedly dilated areas. In the dilated segments, particles of carbon, previously injected intravenously, leak into the vessel wall (Giese, J.: Am. J. Med., 55:315, 1973). Water may leak through the arteriolar walls, adding to cerebral edema, as suggested by Byron's observation (see reference above, p. 83) of "a locally damaged vessel, its ground substance dense with deeply stained colloid derived from plasma, in the centre of a pool of watery fluid."

In addition, in man, there is the (admittedly sparse) evidence summarized by Dr. Kontos that cerebral arterioles fail to constrict sufficiently to maintain normal blood flow when arterial blood pressure rises markedly. It is possible that in man, as in cat and rat, very high blood pressure actually dilates cerebral arterioles, with leakage of fluid from capillaries in the brain and even through dilated segments of the arterioles themselves.

The current tentative hypothesis about the pathogenesis of hypertensive encephalopathy, then, is that sufficient elevation of blood pressure produces cerebral arteriolar dilation, segmental in appearance, with consequent cerebral edema. Since the clinical syndrome is reversible, I assume that arterial dilation and cerebral edema are also reversed by reduction in blood pressure.

The obvious implication regarding choice of drugs to reduce blood pressure is, as mentioned by Dr. Kontos, to avoid an agent which dilates further the arterial vessels in the brain. Diazoxide (Hyperstat[R]) is the drug of choice for rapid reduction in blood pressures because administration of an intravenous bolus of 5 mg/kg produces maximum hypotensive effect within five minutes. Thereafter frequent measurement of blood pressure to determine when it has risen high enough to require another intravenous bolus is all that is required. On the contrary, Trimethaphan (Arfonad[R]) and nitroprusside, both effective antihypertensive drugs, must be given by constant intravenous infusion and require *constant* attendance by a physician or very skillful nurse because change in the rate of infusion (by change in position of the patient's arm with kinking or opening of the vein) will result in immediate rise or fall in blood pressure, sometimes of catastrophic proportion. But diazoxide acts by dilating arterioles directly. Renal blood flow, cardiac output, and flow to skeletal muscle all increase despite reduction in blood pressure. The effect of diazoxide on cerebral flow in man is not known. Accumulated experience (e.g. Finnerty, F.A., Cardiovascular Clinics 1:240, 1969) suggests that use of diazoxide is associated with improvement in hypertensive encephalopathy and I consider it the drug of choice because its efficacy in lowering blood pressure and its convenience outweighs the theoretical disadvantage of cerebral vasodilation. Diazoxide produces renal retention of salt and water; since cerebral edema is likely in patients with encephalopathy, the concomitant use of furosemide (Lasix[R]) to prevent further expansion of extravascular salt and water appears reasonable.

Dr. A.J. Wasserman: Wouldn't nitroprusside dilate cerebral vessels as much as diazoxide?

Dr. David Richardson: Sodium nitroprusside does not increase cardiac output or renal blood flow in man. Diazoxide increases both. So far as I know, no one has observed the effect of either drug on cerebral blood flow, so the question is unanswerable at present, though diazoxide is apparently a more potent dilator in vascular beds other than the brain.

Dr. Hooshang Hooshmand: Thirteen years ago it was emphasized that cerebral edema was

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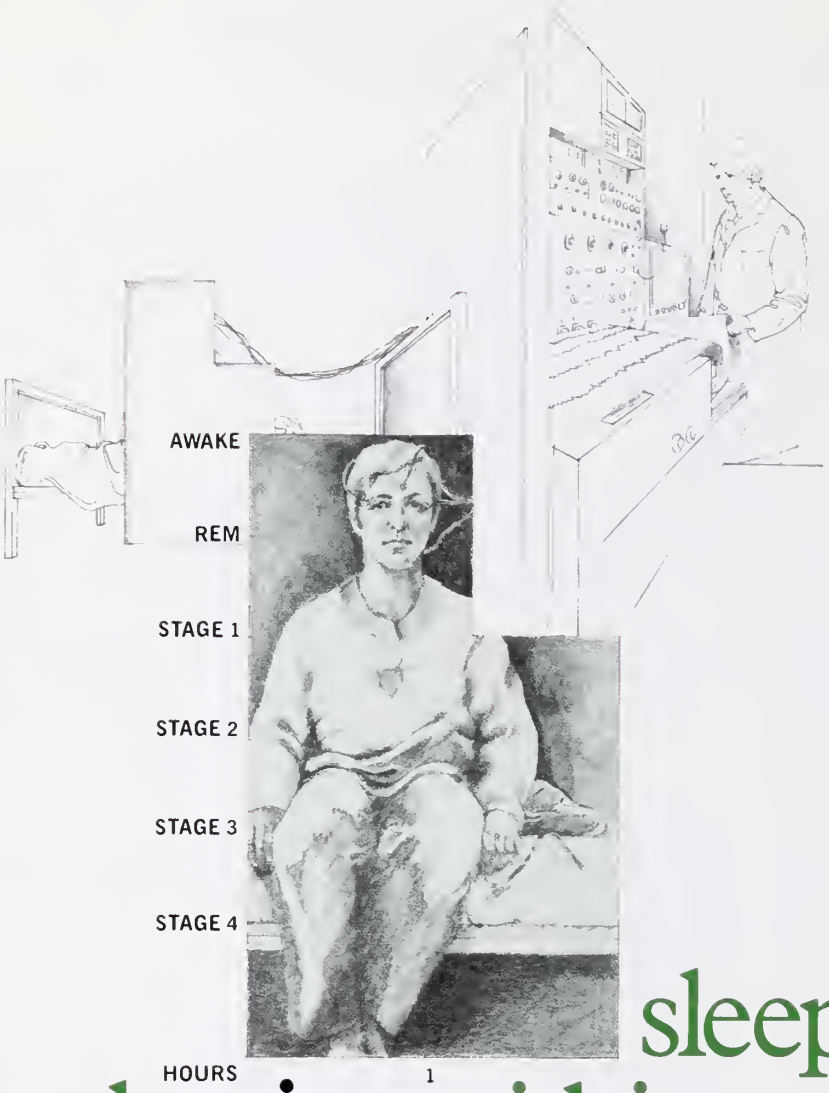

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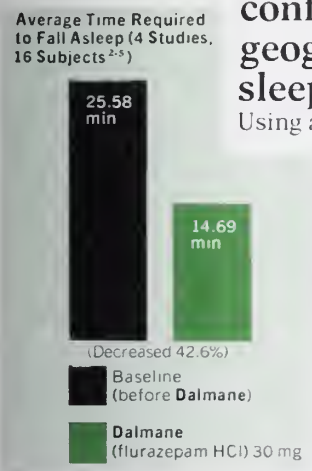

confirmed by clinical studies in four geographically separated sleep research laboratories[2-5]

Using a 14-night protocol involving eight insomniac and eight normal subjects, four studies confirmed the sleep-inducing effectiveness of Dalmane (flurazepam HCl) and the reproducibility of this response. On average, one 30-mg capsule induced sleep within 17 minutes. In all these studies, Dalmane induced sleep rapidly, reduced nighttime awakenings, and provided 7 to 8 hours of sleep without repeating dosage[2-5]

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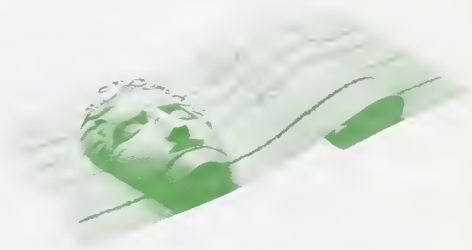
Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.
Contraindications: Known hypersensitivity to flurazepam HCl.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.
Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.
Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.
Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg, usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.
Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



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REFERENCES: 1. Kales A, *et al*: *Arch Gen Psychiatry 23*:226-232, Sep 1970
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4. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc, Nutley NJ
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Opinion & Dialogue

Is there a need for a drug compendium?

A drug compendium of the type I envision would fill a definite need for the practicing physician. Such a compendium would give him all the information necessary for using a drug intelligently, and it would do so in a clear, concise, convenient, objective and balanced fashion.

Government Health Official

Henry E. Simmons, M.D.
Deputy Assistant Secretary for Health
Department of Health, Education and Welfare

What a Compendium Should Contain

I believe the compendium should inform the doctor what a drug will do, when he should use it, for what type of patient, for how long, in what dose, what benefits his patient is likely to obtain, the risks involved, and cross-reactions with other drugs.

The information would be based on the package insert and have the same legal status. In fact, a complete compendium with complete and current information might even eliminate the necessity

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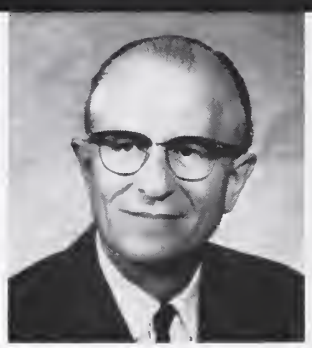


A drug compendium, or preferably compendia, should, I believe, be private, not federal, in sponsorship. They should contain comprehensive listings of drugs available for prescribing. They should be single, legibly printed volumes of reasonable size, updated quarterly or semiannually and completely revised every year.

Function of a Compendium

A compendium should furnish the following information on drugs in the following order: indications for use, side effects, adverse drug reactions, contraindications, drug interactions, drug dosage and the dosage forms marketed. Drug prices should not be included because they vary so widely and change rapidly.

No compendium should set forth drugs of choice or discuss relative efficacy. Such questions must be left for the practicing physician to decide, whether on the basis of the medical literature, his own clinical experience, advice of colleagues, information supplied by manufacturers, and so on.

Nor should a compendium undertake to educate the doctor on how to use drugs. Rather, it must be a reference source designed primarily to refresh his memory as to drugs he may not use regularly. It

for a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, I do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

Other Available Documents as Sources of Information

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful. On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

Should Editorial Comments Accompany the Listings?

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess and indicate instances where a meaningful difference between drugs is pertinent.

Sponsorship, Compilation and Editing

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

should in no way imply control over the practitioner's prerogatives.

Why Another Compendium?

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than produce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

Implications of a Federal Compendium

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

New Compendium—A Medical Option

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

Opinion & Dialogue

What is your opinion, doctor? We would welcome your comments.

The Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

an important factor in the pathogenesis of hypertensive encephalopathy. I think the message should be not only to decrease the high blood pressure but also to give something to counteract the cerebral edema. Improvement of the clinical picture does not mean much because we see patients' clinical pictures wax and wane. Two hours after they are admitted to the Emergency Room they may be wide awake, and six hours later they are deeply comatose. Besides giving the antihypertensive drug, I think it is advisable to treat the increased intracranial pressure with mannitol or dexamethasone. Mannitol is helpful because it is a diuretic and it can be helpful in decreasing arterial pressure as well as intracranial pressure.

Dr. Richardson: Dr. Hooshmand and I are in sharp disagreement. It is certainly true that hypertensive encephalopathy waxes and wanes but it does not wax once the blood pressure is lowered. Reduction of the blood pressure is sufficient.

Dr. Hooshmand: In hypertensive encephalopathy larger arteries are spastic, whereas, the smaller arterioles are dilated and oozing water out. Treating hypertension alone does not counteract the cerebral edema due to this leakage of water. Mannitol or dexamethasone would achieve this purpose.

Dr. George Vennart: Doesn't increased intracranial pressure of itself raise the blood pressure? Meningitis, or a blow on the head, can sometimes cause increased blood pressure due to increased intracranial pressure.

Dr. Hooshmand: We are dealing with a vicious cycle—hypertension causing increased intracranial pressure and vice-versa.

Dr. Richardson: It is true that when intracranial pressure gets very high blood pressure must rise in order to perfuse the brain, but . . . .

Dr. Vennart: How high does intracranial pressure have to get to raise arterial pressure?

Dr. Richardson: In 1902 Cushing (Am. J. Med. Sci. 124:375) showed in anesthetized dogs and rabbits that elevation of cerebrospinal fluid pressure nearly to mean arterial pressure was required to raise the arterial pressure. As CSF was further increased, mean arterial pressure remained about 10 or 20 mm Hg higher than the cerebrospinal fluid pressure. CSF pressure of 80 mm Hg, the lowest level which increased blood pressure in Cushing's animals is approximately 800 mm H_2O, twice as high as our clinical lumbar puncture manometers reach. In unanesthetized man (Greenfield, J.D. and Tundall, G.T.: J. Clin. Invest. 44:1343, 1965), acute elevation of spinal fluid pressure to 900 mm H_2O by infusion of saline into the lumbar subarachnoid space did not alter blood pressure. With chronic elevation of CSF pressure by brain tumor, Kety and colleagues (J. Clin. Invest. 27:493, 1948) found modest elevation of blood pressure, 95-105 mm Hg, in patients with CSF pressures around 500 mm H_2O.

In hypertensive encephalopathy, cerebrospinal fluid is not *very* high; usually it's about 200 or 300 mm H_2O. CSF pressure returns to normal when blood pressure is successfully reduced, and retinal fluffy exudates, the clinically visible counterparts of patchy edema of the brain, also disappear after blood pressure reduction. I think that retinal exudates, cerebral edema, and increased intracranial pressure are all the result of hypertension, and play no part in its genesis.

Dr. A. Jarrell Raper: I'd like to comment further on the retinopathy of accelerated hypertension. Clinicians expect to see diffuse narrowing of the retinal arterial vessels in patients with severe hypertension, and Dollery (Dollery, C.T., et al. in Antihypertensive Therapy, F. Gross, Ed., Springer-Verlag, New York, 1966, p. 152) has shown that reduction of blood pressure is accompanied by dilation of the more distal retinal arterioles in man. Both Dollery and Kirkendall (Examination of the Ocular Fundus in Patients with Hypertension, Merck and Co., Inc., 1973) have found focal, aneurysmal dilations of very small retinal arterioles (about 30 microns in diameter), visible when fluorescein, injected intravenously, fills the retinal vessels. These aneurysmal dilations cluster around the fluffy white exudates which are characteristic of hy-

pertensive retinopathy and which are histologically shown to be accumulations of protein and water in the retina outside the vessels. Thus the retinal changes of severe hypertension, focal dilation of arterioles with surrounding edema, appear compatible with similar changes in the brain presented by Dr. Kontos and Dr. Rosenblum.

Dr. Cary Suter: What about the patient with eclampsia? This is a particular type of hypertensive encephalopathy where I think cerebral edema is even better proved than in ordinary hypertension.

Dr. Rosenblum: In pre-eclampsia and in eclampsia of pregnancy, cerebral blood flow is not reduced unless there is reduction in cerebral metabolic activity (McCall, M.L.; Surg. Gynec and Obstet. 89:715, 1949; Assali, N.S., et al.: Circulation 30: (Supplement 2) 53, 1964). These findings provide evidence against ischemia as a cause of hypertensive encephalopathy, and indirectly favor edema of the brain as the mechanism of its dysfunction.

Dr. Emmett Mathews, Jr.: I would like to thank Drs. Richardson, Kontos, and Rosenblum for this excellent discussion of hypertensive encephalopathy. The salient point to remember from this discussion is that hypertensive encephalopathy is the result of a generalized cerebral dysfunction attributable to a raised blood pressure. The pathogenesis of this condition is not proven but thought most likely to be caused by cerebral edema. The essential change is a sudden and severe increase in blood pressure which overcomes the autoregulatory mechanisms that maintain a constant brain blood flow. The vessels dilate and blood flow increases. It is the increased blood flow and hydrostatic pressure that damages the vascular smooth muscle and endothelium of the vessels. The consequence of this is deposition of vascular proteins in the walls of the vessels and edema. It is the edema that leads to the manifestations of disturbed brain function. Therapy should be directed to the prompt and persistent lowering of blood pressure and the drug of choice is diazoxide.

Drug Smuggler Failed When Balloon Ruptures

An ingenious—albeit unsuccessful—technique for smuggling illicit drugs into the United States is revealed in the March 4th issue of the Journal of the American Medical Association.

The would-be smuggler, a 20-year-old university student, swallowed 26 small rubber balloons filled with hashish oil, a potent narcotic, a few hours before leaving Morocco for a return flight to the United States. On arrival at Kennedy International Airport at New York City he was drowsy, lethargic and disoriented. However, he made it to Baltimore before the symptoms became so pronounced that he was admitted to Sinai Hospital of Baltimore.

X-ray showed a string of small, oblong objects in his stomach. Sixty hours after admission to the hospital he had passed 26 of the hashish-filled little balloons. Unfortunately for the youth, and fortunately for the Baltimore police, one of the balloons ruptured inside his stomach, releasing the hashish oil into his system.

The student recovered with no physical damage after treatment in the hospital. The medical report does not list the police disposition of the case. The report is by Hector H. Lopez, Jr., M.D., Stanford M. Goldman, M.D., Irving I. Liberman, M.D., and Donald T. Barnes, M.D.

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

General Procedures and Criteria for Certificate of Need

Two laws, one State and one Federal, affect the planning for health care facilities in Virginia. In the "Medical Care Facilities Certificate of Public Need Law", enacted in 1973, the General Assembly of Virginia declared "that it is the public policy of the Commonwealth of Virginia to encourage, foster, and promote the planned and coordinated development of necessary and adequate health, surgical and medical care facilities and that such comprehensive health planning and development shall be accomplished in a manner which is coordinated, orderly, timely, economical, and without unnecessary duplication of services and facilities."

The purpose of this Law is "to promote comprehensive health planning in order to help meet the health needs of the public; to assist in promoting the highest quality of health care at the lowest possible cost; to avoid unnecessary duplication by insuring that only those medical care facilities which are needed will be constructed; and to provide an orderly administrative procedure for resolving questions concerning the necessity of construction or modification of medical care facilities."

Section 1122 of Public Law 92-603, the Social Security Amendments of 1972, has a similar purpose with the intent "to avoid the use of Federal funds to support unwarranted capital expenditures and to support health facility and health services planning activities."

Both statutes require that health organizations, regardless of ownership, desiring to make capital improvements to their facilities or to construct a new facility, obtain the approval of the designated reviewing authority as to the need of such projects. Chapter 12.1, Title 32, of the Code of Virginia vests the authority for the administration of the Virginia Medical Care Facilities Certificate of Public Need Law in the State Health Commissioner, and the Virginia State Department of Health has been designated by the Governor as the official state agency to administer the provisions of Section 1122 of P.L. 92-603 in Virginia.

Both statutes require approval of a health or medical care facility project if such project involves a capital expenditure, which under generally accepted accounting principles, is not properly chargeable as an expense of operation and maintenance and which (1) exceeds one hundred thousand dollars ($100,000) or (2) changes the bed capacity of the facility with respect to which such expenditure is made, or (3) substantially changes the services of the facility with respect to which such expenditure is made.

Procedures

Applications for Certificates of Need will be reviewed in accordance with the following procedures:

1. Prior to the requests for and preparation of applications for Certificates of Need, potential applicants are urged to discuss with staff representatives of local Areawide Comprehensive Health Planning Councils or, in their absence, the State Health Department staff representative, their interest in developing the facility or service and obtain advice and guidance in formulation of the proposed project.
2. The application shall be prepared by the applicant according to instructions and on forms provided by the State Health Commissioner. The local Areawide Comprehensive Health Planning Council or the State Health Department will offer its services to the extent available to instruct the applicant in the preparation of such applications.

3. The application shall be filed by the applicant with the State Health Commissioner. The Commissioner's staff representative will (a) check the application for the appropriateness and additional data will be added or solicited if needed and (b) determine compliance with the State Hospital Construction program. The Commissioner will transmit a copy of the application to the local Areawide Comprehensive Health Planning Council, requesting its review and comments.
4. Local Areawide Comprehensive Health Planning Councils shall be responsible for completing the review, comment and transmittal of the application to the State Health Department in accordance with published schedules, time limits, and procedures.
5. The Virginia Comprehensive Health Planning Council shall receive the completed application for review. Applications will be reviewed in such detail, depth, and manner as the Virginia Comprehensive Health Planning Council may deem to be necessary and appropriate to constitute adequate basis for establishing compliance with criteria for determining need.
6. Upon completion of its review, the Virginia Comprehensive Health Planning Council shall transmit the application with its recommendations to the State Health Commissioner. Such transmittal will set forth the basis of the Virginia Comprehensive Health Planning Council's recommendations, including its findings with respect to criteria for determining need as currently established.
7. The State Health Commissioner will review completed applications and recommendations from the Virginia Comprehensive Health Planning Council, and within the appropriate time limits, make his decision in regard to the Certificate of Need, and notify the applicant accordingly.
8. Appeals from applicants whose applications have been denied by the Commissioner shall be made to the State Board of Health.

To date, 85 applications have been considered and of that number 75 approved, ten denied and two of these are under appeal.

Progress

Whenever new State-wide legislation becomes effective there is frequently a shakedown period before things move smoothly. This is particularly true when the law involves planning and decisions which may have already been in effect at the various levels of government. No provision was made in the State Certificate of Public Need Law for a period of time prior to implementation for the development of a State plan with local input: therefore, the Hill-Burton State Plan provided the only widely known and well defined basis for decision making on a State-wide basis. Similar situations existed when certificate of need laws were passed in other states.

Now that the crunch of the start-up period is lessening, efforts are being directed toward the development of a state plan broader than the Hill-Burton Plan. The mechanism for providing local input is underway. This will require much time and effort, but when completed, it will establish a sound basis for decision making which will fulfill the purposes of the law with less potential for litigation. Some states have experienced from the onset a considerable number of suits which have seriously hampered planning and progress. The extensive involvement and accumulation of experience, facts, and data by the State Health Department through its many programs and activities (Certification and Licensure of Hospitals and Nursing Homes, Maternal and Child Health, Crippled Children's Programs, Medicaid Program, Etc.) coordinated with reviews by the local planning agencies and issuance of rules and regulations, will in the near future provide the opportunity for effective, rational, and orderly establishment of a comprehensive health delivery system in Virginia.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held at Richmond's Colony House Executive Motor Inn on March 31.

Members Present: Dr. John A. Martin, Dr. William R. Hill, Dr. Carl E. Stark, Dr. Raymond S. Brown, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. William J. Hagood, Jr., Dr. Harold L. Williams, Dr. Charles E. Davis, Jr., Dr. Carrington Williams, Jr., Dr. George J. Carroll, Dr. Girard V. Thompson, Sr., Dr. H. C. Alexander, III, Dr. George M. Nipe, Dr. Thomas L. Lucas, Dr. James Hal Smith and Dr. W. Leonard Weyl.

Others Present: Dr. James C. Respess, 2nd Vice-President; Dr. James S. Kitterman, 3rd Vice-President; Dr. Gervas S. Taylor, Jr., Dr. Charles M. Caravati, Jr., Dr. Harry L. Westfall, Jr., Dr. Harry C. Kuykendall and Dr. C. Barrie Cook, Vice-Councilors; Dr. W. Callier Salley and Dr. William S. Hotchkiss, AMA Delegates; Dr. Percy Wootton and Dr. F. Ashton Carmines, Alternate AMA Delegates; Dr. J. B. Funkhouser, Deputy Commissioner (for Dr. William S. Allerton), Department of Mental Health & Mental Retardation; Dr. Warren H. Pearse, Dean, Medical College of Virginia; Dr. Joseph F. Kell, Jr., representing the Neurosurgical Society of the Virginias; Gary Miller and David Hyman, representing MCV Student Medical Society; Dr. A. A. Kirk, Chairman, and Mr. Robert G. Stuart, Executive Secretary, VaMPAC; and Mr. William R. Miller, Attorney.

Gasoline Crisis

Dr. Martin reported that two meetings had been held with members of the Governor's staff in an effort to find some solution to the gasoline problem. Some concessions have been made as a result of these meetings and although they will not entirely solve the problem, they do nevertheless represent a step in the right direction.

The Society's big concern has been those physicians, and other members of the health team, who have encountered extreme difficulties during the period from Friday through Monday. The State has agreed to help the physicians concerned if they will certify that they drive a minimum of 150 miles from 8:00 P.M. on Friday to 8:00 A.M. on Monday—for at least 26 weekends during the year. The 150 miles must be in connection with the providing of medical services. A fact sheet will be prepared and distributed to all component societies.

Dr. Palmer

Council was advised that Dr. Richard Palmer has been named Chairman of the AMA Board of Trustees, succeeding Dr. James Sammons. It was agreed that some special recognition should be accorded Dr. Palmer as a result of his election and a motion to *prepare a suitable resolution was seconded and carried.*

Current Procedural Terminology

Blue Shield of Virginia, in keeping with a request by the Society, will soon switch to a five digit code (CPT). This represents quite a step —financially and otherwise—and Blue Shield is most anxious to have the Society reaffirm its support. It was recalled that the House of Delegates, during its meeting of October 20, 1973, adopted a resolution calling on all members of the Society to employ "the current procedural terminology of AMA for coding of services".

A motion by Dr. Stark reaffirming the Society's support of the AMA current procedural terminology was seconded and adopted.

Quackery

Dr. Hotchkiss, a member of the AMA Committee on Quackery, reported on a recent meeting of that body. He indicated that the battle with chiropractic is a continuing one and it is vital that medicine remain alert to developments. It was his feeling that The Medical Society of Virginia should have a Committee on Quackery and that it should be appointed as soon as possible. Although some states apparently leave the quackery problem to their Legislative Committees, this is not always practical. Dr. Hotchkiss felt that the Committee should be a fairly good size—perhaps as many as ten or more. In this way, all specialties concerned with the problem could be made a part of the overall effort.

Dr. Hotchkiss called Council's attention to the fact that recently enacted legislation governing HMO's make the inclusion of chiropractic services mandatory. He strongly urged that medical schools arrange lectures from time to time on chiropractic in order that students can learn firsthand what chiropractic can and cannot accomplish.

Dr. Martin stated that he agreed with Dr. Hotchkiss and that a Committee on Quackery would be appointed in the very near future.

Weinberger Proposal

Attention was called to a proposal by the Secretary of HEW to restrict reimbursement of prescription drugs under the Medicare and Medicaid programs to those of lowest cost. The Chairman of the Committee on Pharmacy considers this an extremely dangerous proposal and contrary to the Society's stand on substitution.

Council agreed that the Society should take a strong stand on the matter and *a motion by Dr. Lucas reaffirming Society policy on drug substitution was seconded and adopted.*

Registration Fee

During its recent meeting, the Committee on Arrangements for the 1974 Annual Meeting expressed concern over the steadily increasing cost associated with annual sessions. It noted that for many years the annual meeting supported itself through its fifty or more commercial exhibits. Times have changed, however, and the number of exhibits has decreased considerably while costs have continued to rise.

It was the Committee's feeling that Council should reconsider the advisability of charging a registration fee for the meeting. In this way, the meeting could carry itself and eliminate any possibility of a dues increase for this purpose. There were many who believed that since an annual meeting is a necessary and integral part of the Society's overall operation, those who attend regularly should not be saddled with an additional cost.

It was the consensus that the final decision should be made by the House of Delegates and *a motion of referral (Dr. Hagood) for consideration at Williamsburg was seconded and adopted.*

Continuing Education

Dr. Davis reviewed the mission of the Commission on Continuing Education as spelled out by the House of Delegates and reported on two meetings which had been held thus far. He indicated that many other states are also concerned with continuing education and that some have already related education to licensure. There are also a number which have related continuing education to society membership.

In reporting on the most recent meeting of the Commission, Dr. Davis covered (1) a proposed telecommunication network, (2) a proposal to create for Virginia a system of coordinated continuing medical education, (3) a proposal to obtain AMA approval as the official continuing education accrediting body for the State, and (4) a proposal to continue negotiations with Natresources, Inc.

Council was then advised that funds to be used in developing a continuing education program might possibly be available from the Virginia Regional Medical Program. Dr. Walthall, the author of the proposal to create a system of coordinated continuing medical education, discussed his plan in some detail. The plan would utilize The Medical Society of Virginia as its coordinating arm and the overall approach would be to develop a central clearing house for continuing medical education programs and documentation of attendance. The proposed system would utilize facts and figures obtained from PSRO and JCAH hospital accreditation programs—as well as various quality assurance programs of the Virginia Regional Medical Program. The expertise available in the medical schools and other areas of the State would be utilized to the maximum extent possible. It was also learned that the various specialty groups and community hospitals would be brought into the program as participants.

It was recalled that the House of Delegates had been quite explicit in its directive that the Commission bring its recommendations back to it in November. It was agreed that although time is a factor, a special meeting of the House on April 10 must be restricted to PSRO.

There was some feeling that further consideration of the proposal should be handled by the Executive Committee and a motion to this effect was made by Dr. Hagood. It was made clear that the Executive Committee would only be concerned with any grant applications and any implementation would be out of the question until the House of Delegates could act in November.

During the ensuing discussion, it was suggested that the word "create" be changed to "design" where it appears in the stated goal of the plan.

A substitute motion was then introduced by Dr. Stark authorizing the Commission on Continuing Education to proceed in its application for a grant in order that a system of coordinated continuing medical education could be designed and developed. The motion made it clear, however, that any implementation must await final action by the House of Delegates. The motion also called for the word "design" to be sub-

stituted for the word "create" where it appears in the plan.

Dr. Hagood's original motion was then withdrawn in order to give primary status to that of Dr. Stark. *Dr. Stark's motion was then adopted.*

Council then returned to the proposed telecommunication network and was pleased to learn that it would include all licensed hospitals in the State. *A motion by Dr. Weyl to approve the proposal in principle was seconded and carried.*

Council next voted to authorize the preparation and submission of an application to the American Medical Association for approval as the official continuing education accrediting body in the State.

The Commission also received Council's approval to renegotiate the original proposal submitted by Natresources, Inc., in 1973. It was noted once again that no proposal can be implemented until first considered by the House of Delegates in November.

Nurse Practitioners

Dr. Carroll reported that medicine is now entering a new era—particularly where physician's assistants and nurse practitioners are concerned. In this connection, the joint Boards of Medicine and Nursing are holding a public hearing on April 24 in order to consider certain rules and regulations governing these para-medical groups.

A number of questions were raised concerning the role of the nurse practitioner. Some concern was expressed over the future of public health clinics and just what might happen to the public health physician. Council was assured that the physician will always be in a supervisory capacity and must be the key where both the physician's assistant and nurse practitioner are concerned.

It was agreed that The Medical Society of Virginia should be represented at the April 24 meeting in Richmond and *a motion by Dr. Weyl to this effect was seconded and adopted.*

Cost of Living Council

Dr. Martin advised that a public hearing on cost of living controls, originally scheduled for April 2 in Washington, has been canceled.

Council "Retreat"

Dr. Harry C. Bates, Chairman of the special planning committee for the Council "Retreat", reported that the committee had met on March 22 and had a number of recommendations.

It was recommended that the "Retreat" be held on Saturday, June 1, and Sunday, June 2, in either Williamsburg or Farmington. The Executive Vice-President reported that accommodations had been obtained in Williamsburg and that complete details would be mailed within the next few days.

It was the Committee's recommendation that those attending should be the Councilor or Vice-Councilor from each District, the President, First Vice-President, President-Elect, immediate Past-President, Speaker, Vice-Speaker, Chairman of the Committee of Past-Presidents and three staff members. This would make a total of 21.

The Saturday morning session would be concerned with such subjects as the House of Delegates, Council and Committees. The Saturday afternoon session would be devoted to membership.

Sunday morning would be concerned with an attempt to develop answers to any problems raised during the Saturday discussions.

It was the committee's recommendation that members attending both sessions and who remain overnight at the site of the conference be reimbursed in the amount of $50.00. This would cover hotel accommodations, transportation and some meal expense. There would be a group luncheon on Saturday.

It was agreed that the report was a good one and *a motion by Dr. Hagood for adoption and implementation was seconded and carried.*

Relationship of Training to Competence

Council had been requested by some insurance carriers to make its thoughts known concerning a claim that additional training makes a physician more competent to perform certain procedures. It was specifically asked if there is anything more than a right way or a wrong way to perform any procedure.

It was agreed that competency—regardless of how it is acquired—is the important thing. It would be difficult to define degrees of competence based only on the amount and type of training received.

Medical Directories

Information recently received in the State Office indicates that the Nader Research Council has filed suit against the Medical & Chirurgical Faculty of Maryland and its Prince George's County Medical Society. The suit reportedly charges that these Societies acted to restrain physicians from participating in the collection of data which was to be included in a consumer's directory for the area. The Nader group has apparently served notice that it will launch a na-

tionwide effort to remove from state statutes any prohibition against physicians advertising.

It is considered likely that Nader will await the outcome of the Maryland test before moving into other states.

Dr. Harold B. Haley

The Medical Society of Virginia recently nominated Dr. Harold B. Haley, Roanoke, for membership on the AMA Council on Medical Education. Dr. Haley is considered an extremely capable physician and represents a healthy balance between the academic world and private practice.

It was also learned that Dr. Warren H. Pearse has also been nominated by the American College of Obstetrics and Gynecology—which means that Virginia has two fine and well qualified candidates.

First Year Medical Students

Dr. Pearse, supported by representatives of the Student Medical Society at MCV, recommended that the Society's By-Laws be amended in such manner as to permit first year students to become members of their student associations and The Medical Society of Virginia. It was pointed out that first year students are normally quite interested in the affairs of organized medicine and that this is the best time to recruit members. It would also make for better continuity. Council learned that the MCV-based society has been represented at meetings of our Program Committee and the Commission on Continuing Medical Education.

Dr. Carrington Williams, Jr., reported that the Committee reviewing the Constitution and By-Laws is quite agreeable to the proposed amendment and will prepare the necessary language.

Dr. Pearse expressed the thought that some effort should be made to obtain more effective State and National coordination of student medical societies. Attention was called to five separate National student organizations—all of which feel they must have their own local groups. Hope was expressed that some way could be found to resolve this particular problem and that The Medical Society of Virginia would work with Dr. Pearse in every possible manner.

Residency Programs

Dr. Pearse stated that Virginia's three medical schools would welcome the support of The Medical Society of Virginia in the effort to develop more residency positions in primary care specialty fields (Family Practice, Internal Medicine, Pediatrics and Obstetrics-Gynecology). It was pointed out that a substantial number of Virginia graduates are being denied an opportunity to remain in Virginia because of the insufficient number of residency programs available to them. It was brought out that there also exists a critical shortage of internships.

A motion was then introduced by Dr. Stark referring the matter to the House of Delegates. *The motion was seconded and carried.*

Blue Cross Board

Representatives of the Society recently met with representatives of the Board of Directors of Blue Cross of Virginia for the purpose of discussing physician representation on the Board. Dr. Charles Caravati, Jr., one of those representing the Society, reported that the meeting was quite encouraging and that, in his opinion, the Blue Cross Board will do what it can to bring about such representation. Although there is no guarantee that a physician will be elected, prospects appear very good indeed. Dr. Caravati reported that the Blue Cross representatives expressed the hope that at least one hospital administrator might also be included on the Blue Shield Board. In this way a much more effective liaison between the two groups could be maintained.

PSRO Update

Dr. Martin reported that since the Department of HEW had rejected the Society's appeal for one statewide PSRO, a special session of the House of Delegates was necessary. The House itself had directed that should substantiative changes be made in the Society's original proposal, participation in PSRO could not be carried out until the matter was brought back to Council and then to the House of Delegates.

A special meeting of the Committee on Peer Review was held in Roanoke on March 29 and Dr. Robert Keeley, Committee Chairman, reported its activities. He stated that the Committee considered the following three alternatives: (1) The Committee could take no further action whatsoever, (2) it could make certain specific recommendations to Council, and (3) it could begin the implementation process should its recommendations be approved by Council and the House of Delegates. He went on to discuss several possibilities open to the Society—placing particular emphasis on the support center approach. These support centers would coordinate all PSRO organizations in a state and HEW has

indicated that it would welcome applications from qualified professional medical organizations.

It was brought out that a statewide PSRO Advisory Council will be necessary since the State has been divided into five separate areas. It was the Committee's recommendation that the Board of Directors of any support center should be separate and distinct from the State Advisory Council.

A motion was then offered by Dr. Hagood which accepted the Committee report for purposes of discussion. Although the motion was seconded and carried, *it was subsequently declared out of order* since it was considered in conflict with Robert's Rules of Order.

Dr. Weyl referred to a recently published PSRO Manual and indicated that State Advisory Councils would be appointed by the Secretary of HEW. He also reported that Secretary Weinberger had been quoted as admitting the possibility of PSRO interference with the private practice of medicine.

It was then moved by Dr. Weyl that Council conclude its discussion at that point and take no further action other than the gathering of as much pertinent information as possible. The matter would simply be referred to the House of Delegates for final action. The motion was seconded.

During the ensuing discussion, it was suggested that members of Council should get as much information as possible into the hands of the delegates from their districts. The thought was also expressed that the various alternatives should be made clear to all members of the House.

Some concern was expressed over the apparent desire of some local groups to establish local PSROs as soon as possible. Fear was expressed that an early action by these groups could destroy any chance the Society might have to take advantage of the support center approach. Council was assured, however, that the local groups concerned would cooperate and not take unilateral action until it was obvious that The Medical Society of Virginia had gone as far as it wished.

A substitute motion was then introduced by Dr. Hagood requesting that a panel discussion be arranged for the special session of the House and that the headquarters staff make available to the District Councilors copies of Dr. Keeley's report and the PSRO manual referred to by Dr. Weyl. This would enable the Councilors to get as much information as possible to their own delegations prior to the meeting on April 10. The motion was seconded.

Dr. Weyl then withdrew his original motion and the motion by Dr. Hagood was adopted.

Proposed Legal Action

The American Medical Association has indicated that it will cooperate with any states which might wish to bring legal action against the Department of HEW in connection with PSRO area designations. Mr. Miller had contacted the AMA Legal Department and reported that AMA would cooperate by providing all necessary legal research. He indicated that any action would likely have to stress the unreasonable aspects of the regulations concerned rather than an objection to the statute per se.

There was some question as to just how many states will actually take legal action but there was a strong feeling that the number would be few. It was agreed that no decision could be made prior to the meeting of the House.

Call for Special Session of House of Delegates

It was pointed out that Article V, Section 13, of the By-Laws states quite specifically that special meetings of the House of Delegates—when necessary or advisable—may be called by the Council. Section 13 also spells out in detail just how the call is to be handled.

Since a special session of the House appears necessary, it was moved by Dr. Hagood that Council issue the necessary call for a special meeting on April 10. *The motion was seconded and adopted.*

VaMPAC

The Board of Directors of VaMPAC has requested the Society to increase its annual contribution to the VaMPAC Educational Fund by $2,000.00. Increased costs and other demands have made it necessary for VaMPAC to draw heavily on its Educational Fund and these monies must be replaced in order that there be no reduction in the number of dollars set aside for candidate support.

It was then moved by Dr. Brown that an additional contribution of $2,000.00 be made to the VaMPAC Educational Fund for fiscal 1973-74. A similar addition should be considered by the Finance Committee in its preparation of future budgets. *The motion was seconded and adopted.*

Retirement Trust

It was recalled that a decision had been made to replace the individual trustees of The Medical Society of Virginia membership retirement plan

with a corporate trustee. The Bank of Virginia-Potomac has been selected as the corporate trustee and certain amendments to the retirement plan trust are necessary before the change over can become official. Mr. Miller reported that he had reviewed the amended trust agreement and had recommended the inclusion of an immunity clause protecting the Society from liability. This seemed advisable since the Society is a party to the trust by virtue of being a sponsor. Mr. Miller went on to report that the new agreement appeared to be in good order and that, in his opinion, the Executive Vice-President should have the authorization of Council to sign on behalf of the Society.

A motion was then offered by Dr. Hagood which would have Council authorize the Executive Vice-President to sign the new trust agreement on behalf of the Society. *The motion was seconded and adopted.*

Legislative Wrap-Up

Mr. Osburn presented a concise report on the 1974 session of the General Assembly—particularly those bills which were of special interest to the profession. It was learned that the Society had enjoyed some success with its legislative program. No major chiropractic gains were made during the session and a number of matters considered quite important were carried over for further consideration during the 1975 session. Legislation which would relate continuing education to licensure was cited as a good example. A complete and detailed report on all legislation of interest to medicine has been prepared and mailed to the membership.

Student AMA

The Student AMA International Health Committee requested the Society to contribute to its cultural extension program for visiting foreign medical students. The program has been partially funded by the U.S. Department of State with an understanding that $7,000.00 in matching funds should be obtained from other sources. The Committee pointed out that two medical students from Scotland studied at the Community Hospital of Roanoke Valley last year and expressed the hope that the Society would extend future students its hospitality and possibly make an additional contribution toward their living expenses.

Following considerable discussion, it was moved by Dr. Brown that the matter be tabled. *The motion was seconded and adopted.*

Congressional Luncheon

Dr. Martin reported that the Congressional luncheon is definitely set for May 6 and that all members of our Congressional delegation are expected to attend. He stated that the discussion period during the luncheon will quite likely be concerned with the utility concept as it applies to the control of health facilities in the various states. Such an approach has been proposed—featuring a utility commission responsible to the Department of Health, Education and Welfare.

Phase IV

There was a brief discussion concerning Phase IV and its relation to physicians and doubt was expressed that the controls will be continued.

Unionization of Hospitals

Council was requested to give serious consideration to any future legislative proposals having to do with the unionization of hospitals. It was suggested that the Society should insist on a strong "no strike" clause in any such proposal —regardless of whether it be Federal or State.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
JOHN A. MARTIN, M.D., *President*

Woman's Auxiliary . . . .

VaMPAC and Its Efforts for Medicine

Since the beginning of the practice of medicine in this country, never before has the profession been faced with more obstacles to overcome and more government bureaucracy and intervention. The medical profession is faced with an array of pending legislation in Congress at this time which could completely change the practice of medicine in our United States. To mention, the major pieces of legislation which have been passed or are pending at this time, with which I am sure most of you are well aware, are: Health Maintenance Organizations, Professional Standard Review Organizations, and the biggest of all, National Health Insurance.

VaMPAC, which is a program belonging to the physicians in the State of Virginia, has been instrumental in helping to send a fine group of Congressmen and United States Senators to represent us in Washington. We are constantly reminded that these representatives have been very faithful and helpful when approached by members of the medical profession and asked to assist on much needed legislation which might affect the medical profession. Each physician in this State and his wife has an opportunity to help us return this fine group of representatives to Washington for the next two years. You are reminded that this is an important election year and we anticipate that three-fourths of our congressional delegation will possibly be contested in their bid for reelection this fall. These men will need financial candidate support and this is only made possible by your membership in VaMPAC. It is only natural that we all tend to procrastinate and put things off, but unless we meet our challenge and get behind our fine congressional delegation, we might enter the year of 1975 with a group of Congressmen in Washington which could help to pass adverse legislation that would greatly affect the practice of medicine not only in Virginia but throughout the United States.

As you recall, VaMPAC took a most active part in the election of our good friend, Mills E. Godwin, Jr., for Governor. This was an extremely close race and has led a number of opposing candidates to believe that they will possibly be able to upset a number of our incumbents in Congress who have served medicine so faithfully through the years. This will be one of the hardest election years ever for the medical profession, and you can meet this challenge by sending your yearly membership dues today, either to the VaMPAC office directly or to The Medical Society of Virginia office in Richmond. Dues for the physician are $25.00 and the physician's wife may join separately for $25.00. Ten dollars of each $25.00 membership makes you a member in the national organization, AMPAC. If you have joined this year, talk with your partner, your colleagues, and make sure that they have also joined. This great endeavor can only be a success if every physician and his wife in the State join hands in this major undertaking.

Robert G. Stuart
Executive Secretary
VaMPAC

AMA Woman's Auxiliary Convention

Opportunities to hear outstanding speakers, to exchange ideas for projects and programs, to learn more about the auxiliary and to participate in its future—these will all be part of the 1974 Convention of the Woman's Auxiliary to the American Medical Association. The annual meeting of the AMA Auxiliary House of Delegates will be held at the Drake Hotel, Chicago, June 23-26. Presiding at the meetings, to which all auxiliary members are in-

vited, will be Mrs. Willard C. Scrivner, president, of Belleville, Ill.

Speaking at the opening session on Monday, 9:00 am, will be Joyce Brothers, PhD, noted radio and television personality and writer of numerous magazine and newspaper columns. Tuesday's guest speaker will be Virginia Apgar, MD, MPh, senior vice president for medical affairs, The National Foundation-March of Dimes. Then on Wednesday, at 1:30 pm, Robert Kaplan, PhD, professor and chairman, Health Education Division, Ohio State University, will address delegates and guests on one of the priority programs for 1974-75, health education.

Two luncheons are scheduled. The first—the annual luncheon honoring AMA officers, trustees and wives (June 24)—will feature Russell B. Roth, MD, AMA president, as guest speaker. At this time, the auxiliary will present its annual contribution to AMA-ERF; Kenneth C. Sawyer, MD, president of AMA-ERF, will bring remarks; and awards will be presented to state and county auxiliaries which have made outstanding contributions to the foundation in 1973-74.

The second luncheon will be on June 25, and will honor auxiliary national past presidents and honorary members—and will feature fashions by Bonwit Teller.

An interesting and informative part of the convention will be the state "Idea Exchange" in which each auxiliary will have the opportunity to present its most interesting project from the 1973-74 year.

Business sessions will include nominations for and election of the 1975 Nominating Committee, presentation of the annual budget, a memorial service for deceased auxiliary members, membership awards, reports of officers and chairmen and election of 1974-75 officers and chairmen.

On June 26, Mrs. C. Rodney Stoltz, national past president, will install officers and directors for 1974-75, following which Mrs. Howard Liljestrand, 1974-75 president, will give her inaugural address.

New program ideas will be offered in "Directions, 1974-75: A Program Seminar," to be held on Wednesday at 1:30 pm.

All members, husbands and guests are invited to attend the reception, June 23, at 5:30 pm, honoring Mrs. Scrivner and Mrs. Liljestrand.

Youth Program at Convention

As in past years, the AMA Woman's Auxiliary will sponsor a program of activities for youth attending the AMA and auxiliary conventions with their parents.

This year, under the auspices of Combined World Travel, entertaining and educational activities will include a day-long tour of New Salem or the Dickson Mounds Indian Museum; and tours of the Chicago Fire Academy, the Museum of Science and Industry, Chinatown, the Brookfield Zoo, the Hancock Building and the Lincoln Park Farm-in-the Zoo.

Tours will run from June 23 through June 26. Pickups will be made both at the Drake Hotel, auxiliary headquarters, and the Palmer House, AMA headquarters.

Reservations and price information are available through Combined World Travel, 21 E. Van Buren St., Chicago, Ill. 60605.

Miscellaneous....

Benefits for Skilled Nursing Facilities Now Offered to Blue Cross Subscribers

Benefits providing 180 days of coverage in Skilled Nursing Homes are now in effect for more than 100,000 non-group subscribers of Blue Cross and Blue Shield of Virginia and are being offered to all of the Plans' group contracts.

If properly utilized, the new benefits can have a significant impact on containing health care costs, according to M. Roy Battista, Vice President for Provider Relations of the Richmond-based organizations. "The key to the success of programs like these will be their degree of acceptance by area physicians and patients." "Skilled Nursing Facility benefits are relatively new and will require a change in our traditional view of the hospital as the only major source of institutional care. The image of Skilled Nursing Facilities will also have to be brought in line with their current potential in providing multiple services to patients of all ages."

The Blue Cross program provides coverage upon a doctor's certification and plan of treatment—without the necessity of prior hospitalization, as required by Medicare contracts.

The benefits are designed for patients who need more than custodial or minimal care but who do not require acute hospital treatment. For example, a patient may be hospitalized for a stroke and then transfer to a Skilled Nursing Facility for recuperative treatment. There, he would receive continuous skilled nursing observation, injectible medications, certain daily laboratory work, and other supportive paramedical services. His physician would supervise his progress as needed until recovery. In this case, the patient would not be able to receive the required services conveniently at home. Yet, he would not need intensive hospital care. The Skilled Nursing Facility can provide the necessary level of treatment and at less cost.

Current charges for a day of care in Skilled Nursing Facilities are about $20. Daily charges for semi-private hospital rooms in Virginia now range about $60. Using these figures, the average bill for a two-week confinement could be reduced by $560 if certain patients were placed in Skilled Nursing Facilities rather than hospitals.

In addition to impacting favorably on subscribers' insurance rates, skilled nursing facility benefits can alleviate possible pressures on community hospital resources.

Skilled Nursing Facilities are one answer to the problem. There is also a pressing need in Virginia, as elsewhere, to develop more ambulatory and "self help" hospital units, outpatient clinics, and home health care programs.

Skilled Nursing Facility benefits are part of all nongroup contracts and may be added to group coverage at a low monthly cost. Excluded from the program are care for nervous and mental illness, drug addiction, alcoholism, tuberculosis, senile deterioration, and custodial treatment.

As defined by the Blue Cross and Blue Shield contracts, "skilled nursing facility care" means continuous skilled services which

1. Are furnished by or under the supervision of licensed medical personnel.
2. Are documented as a plan of treatment by a physician to reduce the patient's disability so that he can live outside an institution providing medical care; and
3. Are medically necessary to obtain the desired results.

Additional information about Skilled Nursing Facility benefits may be obtained from the Provider Relations Division, Blue Cross of Virginia, Richmond.

Editorial . . . .

Rhodes Scholars: 1904-1974

"Variety's the very spice of life" wrote William Cowper (1731-1800) in "The Timepiece."

IF NOT FOR VARIETY (aside from prolixity), for what have my editorial offerings to Virginia Medical Monthly been noted?

Several years ago, apropos the loss of 28 consecutive football games by one of the Nation's great universities, a popular newspaper reporter and television commentator suggested that, instead of concentrating so alarmingly upon its poor gridiron record, an appreciable measure of consideration be focused upon the number of Rhodes Scholars that institution of higher education had produced.

Inasmuch as no complete and up-to-date Rhodes Scholarship tally is contained in such conventional sources of reference as the Encyclopedia Britannica or the World Almanac it has occurred to me that this information should be of sufficient interest to the medical profession by and large to warrant its being included in the editorial section of Virginia Medical Monthly.

Until I can complete the composition of a more scientific and medically oriented editorial currently "in the mill", the following Rhodes Scholarship tabulation is offered.

Pursuant to the terms of the will of Cecil John Rhodes (1853-1902), the first delegation from the United States entered the University of Oxford in 1904; and during 70 subsequent years, 2025 U. S. Rhodes Scholars have been drawn from 240 American institutions of learning—broken down as follows:

Harvard, 172; Yale, 131; Princeton, 128; United States Military Academy, 53; Dartmouth College, 46; Stanford University, 35; University of Virginia, 35; Brown University, 29; Reed College, 27; University of Washington, 25; United States Naval Academy, University of Oklahoma, University of Wisconsin and Williams College, 23 each; Vanderbilt University, 22; University of Michigan, 21; Swathmore, University of Arizona, University of Kansas and University of Mississippi, 20 each; Bowdoin College, Massachusetts Institute of Technology, University of Idaho, University of Minnesota, University of Montana, University of Nebraska, University of North Carolina at Chapel Hill and University of Texas, 19 each; Davidson College, Haverford College, University of California at Berkeley, University of Chicago, University of Nevada and University of Utah, 18 each; United States Air Force and University of the South, 17 each; University of Colorado, University of Oregon, University of Wyoming and West Virginia University, 16 each; Duke University and University of Georgia, 15 each; University of Iowa and University of New Mexico, 14 each; Cornell University, Oberlin College and Washington University at St. Louis, 13 each; Amherst College, Carleton College, Louisiana State University, University of North Dakota, University of Pennsylvania and Wesleyan University (Conn.), 12 each; Columbia University, Emory University, Grinnell College, Middlebury

College, University of Alabama and Washington and Lee University, 11 each; Johns Hopkins University, Pomona College, University of Vermont and Washington State University, 10 each; Tulane University, University of Florida, University of Kentucky and Yankton College (including Fargo College), 9 each; Indiana University, University of Arkansas and Virginia Military Institute, 8 each; Case Western Reserve University, Colorado College, Northwestern University, Occidental College, Rice University, University of California at Los Angeles, University of Delaware, University of South Carolina and Wabash College, 7 each; Center College of Kentucky, Kenyon College, Lehigh University, Rutgers University, Southwestern University (Tennessee), University of Illinois and University of South Dakota, 6 each; Bates College, Colgate University, Georgetown College (Kentucky), Hamilton College, Hamline University, Hendrix College, Lawrence College, Michigan State University, Montana State University (Bozeman), Utah State University (formerly College) of Agriculture and Applied Sciences and Wofford College, 5 each; Baker University, Baylor University, Birmingham-Southern College, California Institute of Technology, Charleston (S. C.) College, Colby College, Cornell College (Iowa), Howard College (Alabama), Luther College, New York University, Ohio Wesleyan University, University of Cincinnati, University of Denver, University of Richmond, University of Southern California, University of Tennessee and Whitman College, 4 each; Brigham Young University, College of the Holy Cross, College of Idaho, Creighton University, Dickinson College, Drake University, Furman University, King Fisher College, Linfield College (including McMinnville), Macalester College, Miami University (Ohio), Millsaps College (Mississippi), New Mexico State University, North Dakota State University, Ohio State University, St. John's College (Maryland), St. Louis University, St. Olaf College, Southern Methodist University, University of Maine, Westminster College (Missouri) and Willamette University, 3 each; Arizon State University, Augustana College (South Dakota), Austin College, Beloit College, Boston University, Coe College, DePauw University, Earlham College, Emporia College, Fordham University, Franklin & Marshall College, Georgetown University, Gettysburg College, Hiram College, Hobart College, Hope College, Huron College, Illinois Wesleyan University, Iowa State University, Jamestown College (North Dakota), Kansas State University, Knox College, McKendree College, Mercer University, Phillips University, Purdue University, Rensselaer Polytechnic Institute, Ripon College, Rollins College, Southwestern (Texas) University, Stetson University, Texas A & M College, Trinity College (Connecticut), University of Louisville, University of Rochester, Wake Forest College, Washburn University and Worcester Polytechnic Institute, 2 each; Albion College, Auburn University (formerly Alabama Polytechnic Institute), Bethany College (Kansas), Calvin College, Carnegie Institute of Technology, Centenary College (Louisiana), Central College (Missouri), City College of New York, Dakota Wesleyan University, Denison University, Doane College, Emory and Henry College, Florida A & M University (formerly College), Franklin College, George Washington University, Georgia Institute of Technology, Grand Island College, Hampden-Sydney College, Hanover College (Indiana), Hastings College (Nebraska),

Henderson-Brown College, Iowa State Teachers College, King College (Bristol, Tennessee), Lafayette College, Loyola University (California), Marshall College, Medical College of Virginia, Milikin University, Milton College, Mississippi State University, Monmouth College (Illinois), Montana School of Mines, Nebraska Wesleyan University, New Mexico Military Institute, Northwestern Nazarene College, Olivet College, Park College, Presbyterian College of South Carolina, Randolph Macon College, Roanoke College, St. Charles College (Louisiana), St. Ignatius College, St. John's University, St. Joseph's College (Pennsylvania), St. Lawrence University, St. Michael's College (Vermont), St. Peter's College (New Jersey), Souix Falls College, South Dakota State College, Southwestern College (Kansas), Southwestern State College (Oklahoma), Texas Technological College, Transylvania College, Tufts University, University of Chattanooga, University of Maryland, University of Santa Clara, University of Tulsa, Valparaiso University, Virginia Polytechnic Institute, Washington and Jefferson College, West Virginia Wesleyan College, Whittier College, Whitworth College, William Jewell College (Missouri) and Worcester College (Oxford), 1 each.

The source of the foregoing information is The Rhodes Scholarship Trust, Wesleyan University, Middletown, Connecticut—06457.

H. Lamont Pugh, M.D.

More about the Rhodes Scholar

THE PRECEDING EDITORIAL by Dr. H. Lamont Pugh, native Virginian, retired Surgeon General of the Navy and a member of the Editorial Board, reached the Virginia Medical Monthly at the perfect moment. The timing could not have been better. North Carolina State had walloped the University of Virginia soundly in football, basketball and baseball and the University of Maryland had just overwhelmed Virginia in lacrosse. A news item of the same date brought the tidings that North Carolina State, Maryland and Virginia Commonwealth University were currently vying for the services of Moses Malone of Petersburg. The Pugh hypothesis—i.e., the athletic status of a center of learning appears to vary in inverse ratio to the academic standing of the institution—came as balm to a fevered brow. As as matter of fact, Dr. Pugh didn't exactly say that, but a reader who is grasping at straws will assume that was what he meant.

The good editor need not have attempted to go further in order to find a more "medically oriented editorial", for medical students are eligible for Rhodes scholarships. In fact, two classmates in the first year of medicine, (longer ago than the writer likes to recall) sat in adjoining seats and were laboratory partners before they left the University to go to Oxford. Their proximity played no part in becoming Rhodes scholars, for their names—Ben Baker and Eldridge Campbell—placed them together alphabetically. Their two years abroad were pleasant and rewarding ones but it cost them an extra year of schooling for their classes did not coincide with the corresponding American medical courses.

In years gone by when students were considered for these scholarships, emphasis was placed on athletic prowess as well as academic proficiency, leadership and "moral forces of character". This "fondness for sports" was exemplified by Baker and Campbell for they were members of the mile relay team that for three successive years lowered the record at the Penn Relays in Philadelphia. They then proceeded to do the same thing at Oxford—to the University of Cambridge's discomfiture.

The widespread subsidization of athletes has largely loosened the bond that existed so frequently in the past between the outstanding athlete and the equally accomplished student. A few decades ago the private preparatory schools had superior coaches and instructors to a far greater degree than did the public schools. Emphasis also was placed on participation in athletics as well as academics with the result that private schools usually excelled when they competed with public schools. This disparity was brought home many times to the writer who attended public high schools. Now all this has changed. The athletic budgets have increased in public schools. They now have better coaches and often better teachers. Even more significant is the realization by high school students that the gifted basketball or football player has a road to ready riches and a quasi-social status paved by the scholarships they will be offered by colleges of both high and low degree. But sad to relate there is little provision for academics in this new program. There are few Phi Beta Kappas in professional sports and there are far fewer American athletes competing on Oxford teams.

But it was good while it lasted, for Virginia had more excellent preparatory schools than the adjoining states and most of the graduates of these prep schools enrolled in colleges or universities within the boundaries of the Commonwealth. No less than 10 Virginia institutions have been represented in Oxford and 64 scholars have received Rhodes awards—far more than one would expect in view of the relatively small student bodies in the State's institutions of higher learning. Lexington alone has provided 19 scholars from Washington and Lee and the Virginia Military Institute.

A careful perusal of the list provided by Dr. Pugh reveals many surprises. One of the pleasant discoveries is that much maligned University of Mississippi, which shares with its State the role of whipping boy for our northern "intelligentsia", stands third in the south and well ahead of three of our vaunted Ivy League schools—two of which are far older and many times larger than "Ole Miss". The service academies now have difficulty in winning ball games, but they are well represented in the list of Rhodes scholars, and especially the recently opened Air Force Academy which already has sent 17 students to Oxford.

Each subscriber to the Virginia Medical Monthly should keep Dr. Pugh's editorial for ready reference whenever his alma mater has taken a licking over the weekend by an out-of-state school, for it will cheer him up for the remainder of the week.

H.J.W.

News . . . .

Calendar of Events

Seaboard Medical Association—Annual Meeting—Holiday Inn—Nags Head, North Carolina—June 13-16, 1974.

Humanities Seminars—Sponsored by National Endowment for the Humanities—University of Texas Medical Branch at Galveston—Galveston, Texas—September 9-October 4—Deadline for applications is June 17, 1974.

AMA Annual Meeting—Chicago—June 22-27, 1974.

The Art and Science of Sports Medicine—Sponsored by Departments of Orthopedic Surgery and Rehabilitation, Health and Physical Education, and Athletics—University of Virginia—Charlottesville—June 27-29, 1974.

Annual Congress on Occupational Health—Sponsored by AMA—Marriott Motor Hotel—Chicago—September 9-10, 1974.

Walter L. Thomas Symposium on Gynecologic Malignancy and Surgery—Duke University Medical Center—Durham, North Carolina—September 20-21, 1974.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 3-6, 1974.

American Association for Clinical Immunology and Allergy—Annual Meeting—Pier 66—Ft. Lauderdale, Florida—November 21-24, 1974.

AMA Clinical Meeting—Portland, Oregon—November 30-December 4, 1974.

Problems of Cortical Function—Sponsored by Division of Pediatric Neurology of the University of Virginia, Medical College of Virginia and King's Daughters Hospital—Cascades Convention Center—Williamsburg—December 6-8, 1974.

* * * * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following members were received into The Medical Society of Virginia during the month of March:

Mohamad Ahmad Afify, M.D., Norfolk
Alan H. Brill, M.D., Charlottesville
Margaret Ann Brown, M.D., Alexandria
Ronald Bayard Brown, M.D., Virginia Beach
Martha Alma Carpenter, M.D., Charlottesville

Norman Ross Edwards, M.D., Hampton
Wayne W. Ferguson, M.D., Charlottesville
Dean Roy Goplerud, M.D., Richmond
James S. Howard, III, M.D., Williamsburg
Edgar V. Howell, Jr., M.D., Culpeper
Edward Atwell Jones, M.D., Bailey's Crossroads
Richard Evers Katholi, M.D., Charlottesville
Guillermo Mosquera, M.D., Norfolk
John F. Kiraly, M.D., Charlottesville
Gerald Vincent Otteni, M.D., Charlottesville
John Mott Robertson, Jr., M.D., Lynchburg
Beulah Y. Roblete, M.D., Covington
Ildefonso D. Rodis, M.D., Petersburg
Donald Lynn Spencer, M.D., Norfolk
Judith Marie Szulecki, M.D., Martinsville

New student members are:

Sandra L. Anderson, Richmond
J. Sumner Bell, III, Richmond
Wendy Bone, Richmond

Bedford County Medical Society.

Dr. John A. Wente, Jr., has been elected president of this Society, with Dr. John R. Wenger, Jr., serving as vice-president and Dr. Randolph G. Bradshaw as secretary-treasurer.

Silver Beaver Recipients.

The Shenandoah Area Council has honored two doctors with the Silver Beaver Award. They are Dr. William B. Crawford, Woodstock, and Dr. George E. Troxel, Winchester. This is the first time the Council has presented the award to a physician.

Dr. James O. Burke,

Richmond, has been named an assistant vice president of the A. H. Robins Company. He has been associated with Robins since 1956.

Symposium on Family Psychotherapy.

The eleventh Georgetown University Symposium on Family Psychotherapy will be held at the University Medical Center, Washington, D. C., October 31 and November 1.

For further information, please write to Francis D. Andres, M.D., Department of Psychiatry, Georgetown University Medical Center, 3800 Reservoir Road, N.W., Washington, D. C. 20007.

For Sale.

Irvington, Virginia, "The Green". Three bedrooms, 2½ baths, luxury condominium on fabulous Tides Inn Lodge 18 hole course. Golf, pool, tennis privileges. Fully equipped, maid service. Lounge room with bar, fireplace, patio, overlooking water. J. P. Murphy, M.D., 8218 Wisconsin Avenue, Bethesda, Maryland 20014. Phone 301-652-4470. (*Adv.*)

Wanted.

Physician, semi-retired or retired, who wants to work some, every other week, 20 miles southwest of Richmond. Contact P. O. Box 156, Amelia, Virginia 23002. Phone 561-2451. (*Adv.*)

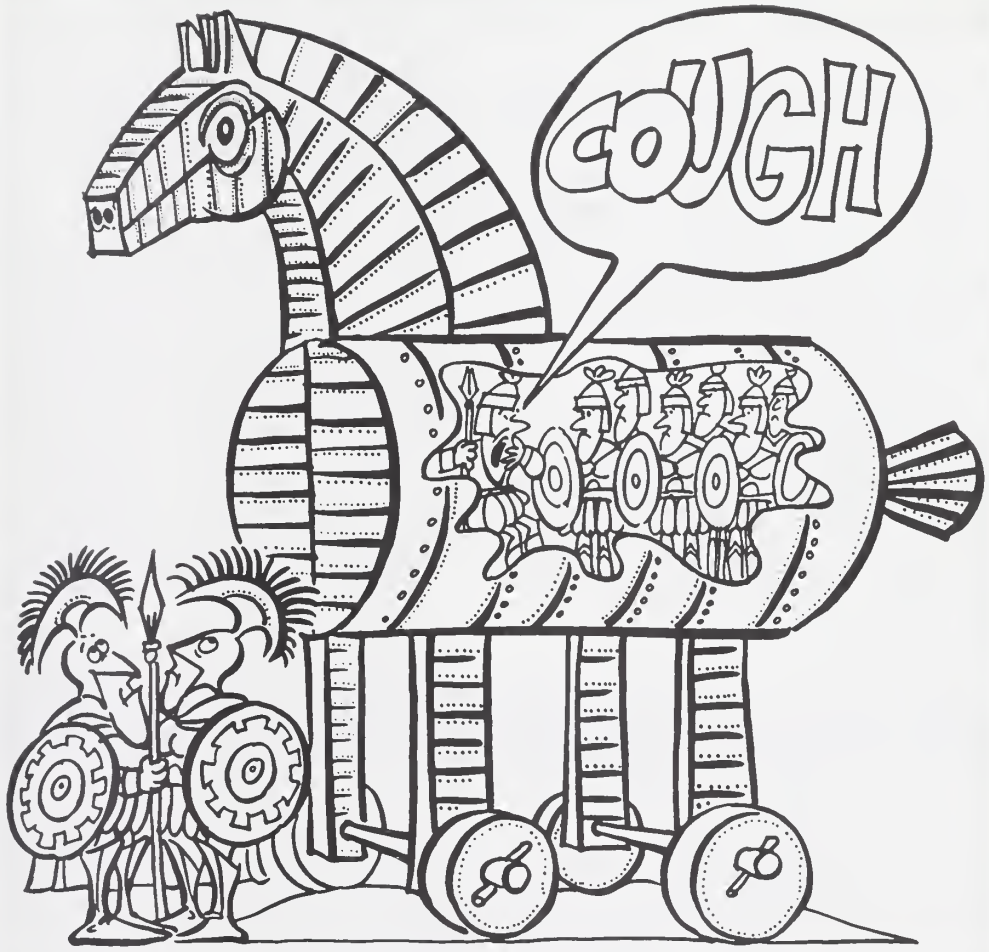
Physician Wanted.

The College of William and Mary, Williamsburg, needs a third M.D., preferably a G.P. or Internist, for active Student Health Service caring for 5,000 students, September 1, 1974. New 18-bed facility opened in August of 1973. Good fringe benefits (State of Virginia Employee Plan). Competitive salary. An Equal Opportunity Employer.

Contact R. D. Cilley, M.D., Director, Student Health Service, The College of William and Mary, Williamsburg, Virginia 23185. Phone 804-229-2793. (*Adv.*)

Emergency Physician

Wanted to join well established four-man association in Richmond. Modern suburban hospital. Excellent back-up by all specialties. Average 44 hour week. Guarantee first year, then full partnership. Department status. Prefer M. D. who wants to make emergency medicine a career. Reply to box 25, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)



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Each teaspoonful (5 ml.) contains:

Codeine phosphate, 10 mg. (Warning: May be habit forming); Triaminic, 25 mg. (phenylpropanolamine hydrochloride, 12.5 mg.; pheniramine maleate, 6.25 mg.; pyrilamine maleate, 6.25 mg.); glyceryl guaiacolate, 100 mg.; alcohol, 5%.

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BS–SB

Obituary . . .

Dr. Thornhill.

The Norfolk County Medical Society records with sorrow the death of its member, Dr. Paige Earl Thornhill of Norfolk.

Dr. Thornhill was born in Herman, New York, on December 3, 1884, and died on January 25, 1974. He was reared near Herman and graduated from Syracuse University, College of Medicine in 1909. He interned at the University Hospital and returned to his alma mater in 1959 to attend the Fiftieth Anniversary of his graduation.

He was in the private practice of medicine in Henderson and Watertown, New York, for a short period of time before serving in France for 22 months during World War I. He was attached to the British Army on assignment from the United States Government and was awarded the British Military Cross. After the war, he was released from active duty with the rank of Captain, Medical Corps.

Dr. Thornhill moved to Norfolk in 1934 and limited his practice to obstetrics and gynecology. He was a pioneer in the study of external version in shoulder and breech presentations and published a treatise on this subject.

In 1949, the City Council of Norfolk appointed him Supervisor of Maternal and Child Health in the Norfolk Health Department, a position he held until a few years prior to his death. In 1958, he was appointed by the Governor of Virginia to a commission to study the problems of children born out of wedlock, and some of the recommendations of this commission became law.

Some of Dr. Thornhill's affiliations were: Assistant Chief of Obstetrics, Norfolk General Hospital; Consultant, Norfolk Community Hospital; Consultant, Norfolk Public Health Department; Supervisor, King's Daughters Clinics. He served in these capacities diligently and well for many years.

He was a Fellow, American College of Surgeons, and a member of the South Atlantic Association of Obstetricians and Gynecologists, American Medical Association, The Medical Society of Virginia, the Ruth Masonic Lodge, a Thirty-Year Member of the Norfolk Rotary Club, and an Elder in the Knox Presbyterian Church.

Dr. Thornhill was an honor to his profession and an asset to the citizens of the Norfolk community which he served. His patients loved him and gained strength in his confidence.

He is survived by his widow, a daughter, and a son. Therefore, Be It

Resolved, That the Norfolk County Medical Society hereby express its sincere gratitude and grateful appreciation for Dr. Thornhill's dedication to medicine and his contribution to the community he so faithfully served for more than thirty years, and, Be It Further

Resolved, That a copy of these Resolutions be sent to each of his survivors, and Be It Further

Resolved, That a copy of these Resolutions be spread upon the minutes of this Society, and a copy be sent to The Medical Society of Virginia.

William C. Andrews, M.D.
Gordon B. Tayloe, M.D.
John S. Thiemeyer, M.D., *Chairman*

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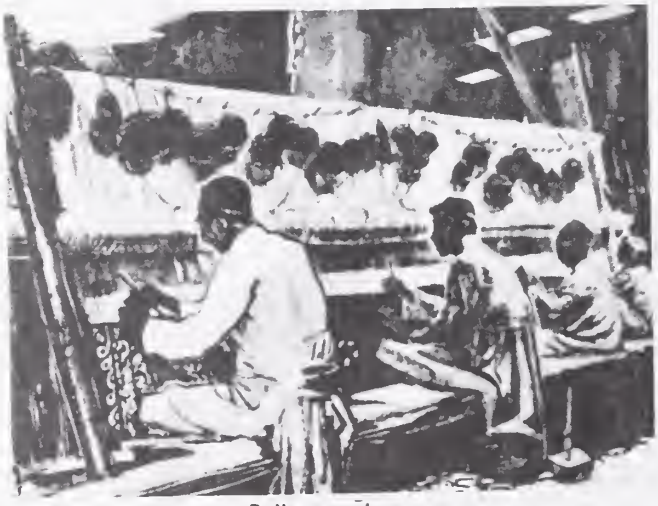

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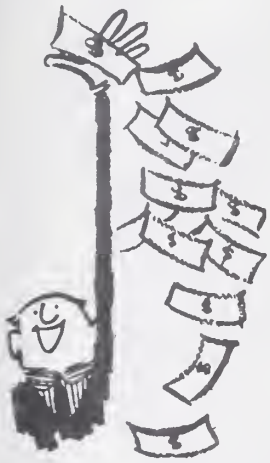

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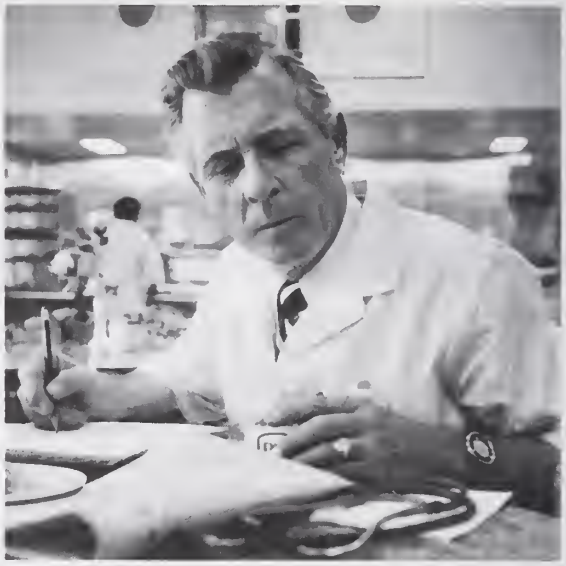

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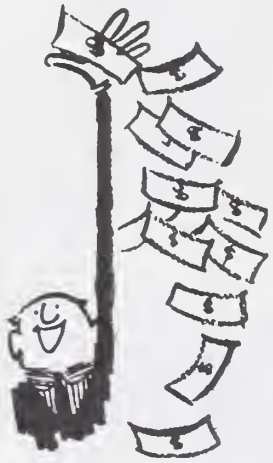

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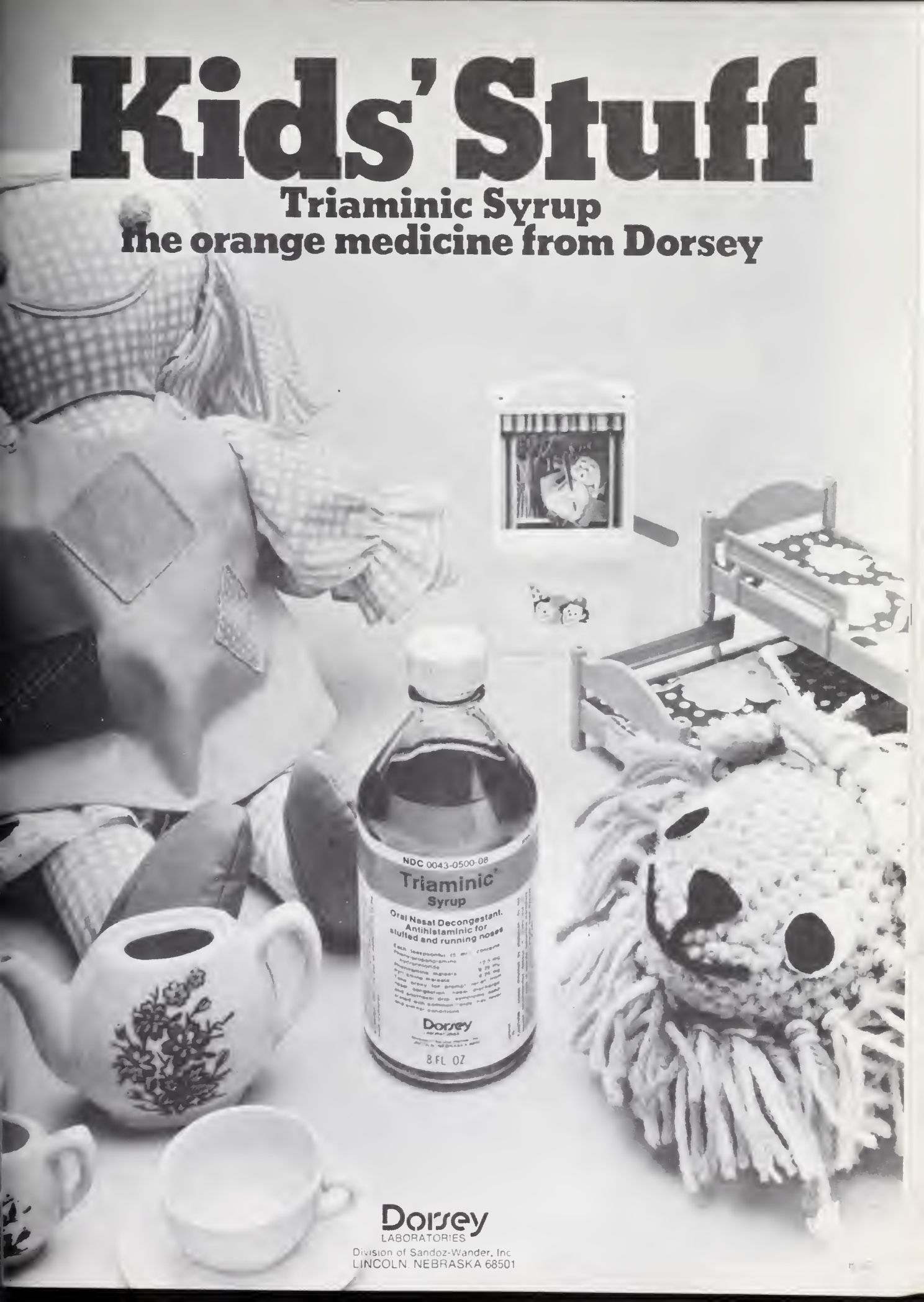

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Opinion & Dialogue

Is there a need for a drug compendium?

A drug compendium of the type I envision would fill a definite need for the practicing physician. Such a compendium would give him all the information necessary for using a drug intelligently, and it would do so in a clear, concise, convenient, objective and balanced fashion.

What a Compendium Should Contain

I believe the compendium should inform the doctor what a drug will do, when he should use it, for what type of patient, for how long, in what dose, what benefits his patient is likely to obtain, the risks involved, and cross-reactions with other drugs.

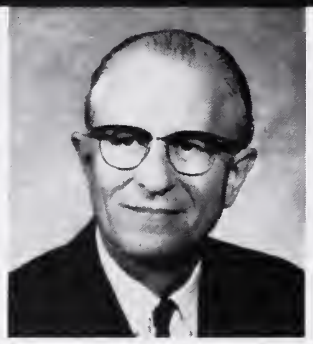
The information would be based on the package insert and have the same legal status. In fact, a complete compendium with complete and current information might even eliminate the necessity

Government Health Official

Henry E. Simmons, M.D.
Deputy Assistant Secretary for Health
Department of Health, Education and Welfare

Maker of Medicine

Joseph F. Sadusk, Jr., M.D.
Warner-Lambert Company



A drug compendium, or preferably compendia, should, I believe, be private, not federal, in sponsorship. They should contain comprehensive listings of drugs available for prescribing. They should be single, legibly printed volumes of reasonable size, updated quarterly or semiannually and completely revised every year.

Function of a Compendium

A compendium should furnish the following information on drugs in the following order: indications for use, side effects, adverse drug reactions, contraindications, drug interactions, drug dosage and the dosage forms marketed. Drug prices should not be included because they vary so widely and change rapidly.

No compendium should set forth drugs of choice or discuss relative efficacy. Such questions must be left for the practicing physician to decide, whether on the basis of the medical literature, his own clinical experience, advice of colleagues, information supplied by manufacturers, and so on.

Nor should a compendium undertake to educate the doctor on how to use drugs. Rather, it must be a reference source designed primarily to refresh his memory as to drugs he may not use regularly. It

for a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, I do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

Other Available Documents as Sources of Information

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful. On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

Should Editorial Comments Accompany the Listings?

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess and indicate instances where a meaningful difference between drugs is pertinent.

Sponsorship, Compilation and Editing

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

should in no way imply control over the practitioner's prerogatives.

Why Another Compendium?

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than produce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

Implications of a Federal Compendium

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

New Compendium—A Medical Option

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

Opinion & Dialogue

What is your opinion, doctor? We would welcome your comments.

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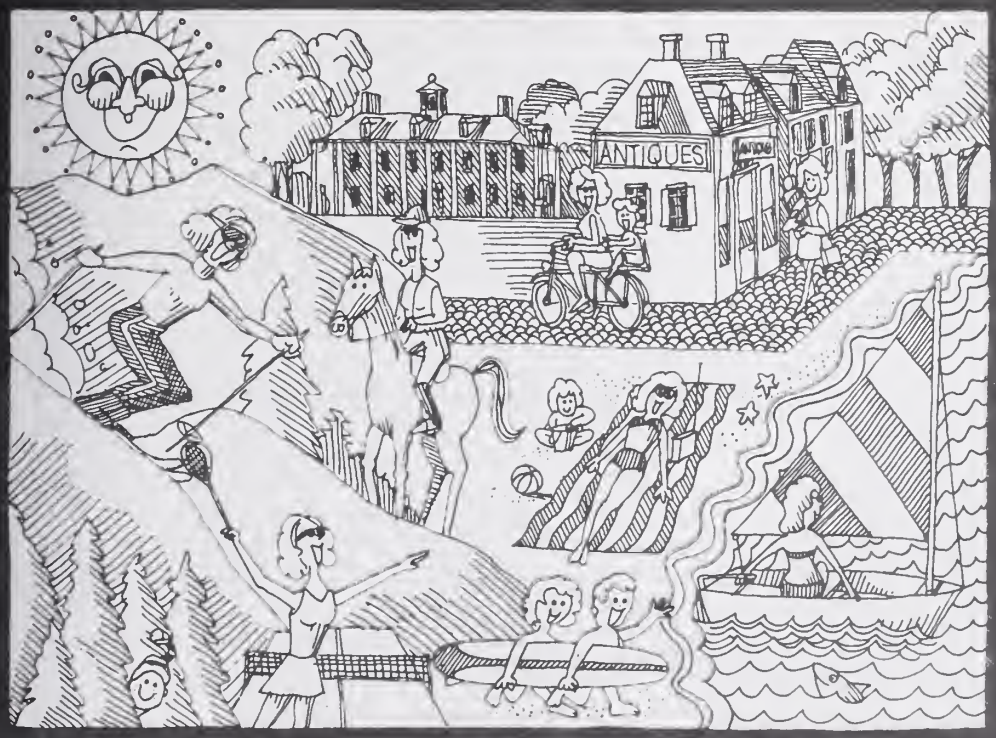

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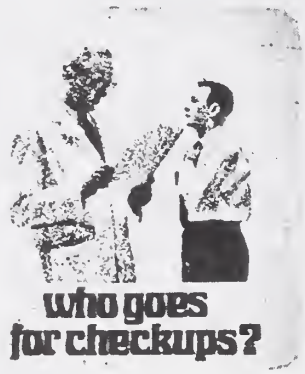

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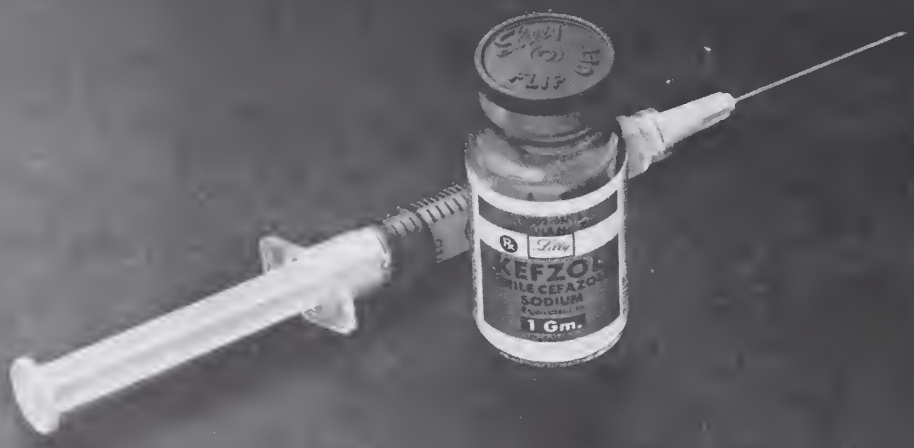

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The Virginia
MEDICAL MONTHLY

July, 1974
Vol. 101, No. 7
Whole No. 1466

Guest Editorial . . . .

An Intercepted Letter

Thomas J. Delegate, M. D.
The Medical Society of Virginia
1619 Burgess Lane
Dominion, Virginia 16017

Dear Tom:

We—organized medicine—need a specially trained professional working full time for us.

Let me digress a minute to better set the stage.

In the last thirty years, which have passed so rapidly since we left medical school, the medical profession has remained erect and functioned well despite a long series of dramatic, traumatic, and restrictive legal changes that came from east of the Potomac River.

Once Washington was that far away, little known community to which congressmen and senators went for specified times to make laws that, hopefully, did not involve us. Now there's hardly a facet of medical practice that is not changed by laws from that seat of government. Not only is this true at the national level, it's estimated this past session of Virginia's General Assembly considered 300 bills that have medical significance. As a member of my county's Board of Supervisors, I see medicine being influenced at the rural level. This tide of regimentation continues to flow—not ebb.

Tom, like you, I've watched organized medicine, in the last three decades, fight one delaying action after another—the Wagner-Murray-Dingle Bill to Medicare. I have watched organized medicine go from one crisis to another —under specialization to over specialization. And after each incident I've seen a little more of the physician's prerogative to practice medicine from the strong inherent trait of individuality eaten away, cut off, stamped out by those people in Washington.

The very best representatives organized medicine has sent to Washington to fight our battles have been no match for the professional legislator or career bureaucrat. It has been no contest.

Tom, it's foolish to turn our backs on the Feds and say we'll have nothing to do with them. They are a way of life. They've brought a change into our medical way of life that's here to stay. We had best get with it.

Now back to my idea of a trained professional working full time for us.

Medical schools spend many hours and much money determining which candidates will enter their freshmen classes. Medical schools spend no time and no money formally determining the field of medicine for which the student is best suited. The absence of a positive program to determine the attributes of medical students has resulted in overstaffing in some fields (surgery) and understaffing in others (family practice and psychiatry). The absence of a positive program to identify the attributes of all medical students has precluded the identification of the specialty field of Medical Legal Administrator (MLA).

The MLA is an individual trained in medicine and also trained in portions of law and business administration that are applicable to the purpose of being executive administrators of local, state, or national medical organizations in today's world.

I wager out of a group of 100 medical students tested for various fields of medicine, including Medical Legal Administrator, one to three percent will show talents needed for the MLA field. Once these people (MLA's) are identified they should be strongly encouraged to become specialists in that field with the objective of being hired by a medical organization.

The MLA is *not* to replace the current lay executive administrators employed by organized medicine. Those excellent people still have a well defined job within the structure of my idea. And that's another story.

The job of the MLA is in the field of bird-dogging Washington and the State Capitol, interpreting the designs of the legislator and bureaucrat to the doctor at the medical society level. When the designs are not to the liking of organized medicine the MLA must present a plan of attack, train a select group of doctors for the attack, then lead them into the attack.

The job of the MLA is to initiate thinking that leads to sound long range planning for organized medicine, nurture the ideas into feasible plans, then put the plans into action.

The job of the MLA is to work with individual component societies within organized medicine to produce an informed membership.

The job of the MLA is to teach medical students about organized medicine. The MLA must tell the students organized medicine's responsibility to them and their responsibility to it.

The job of the MLA is to interpret the doctor's way of medical life to the legal profession, and to interpret the lawyer's way of legal life to the medical profession, and to interpret both medical and legal ways of life to the public, then complete the circle by interpreting the public's way of life to both doctor and lawyer.

The job of the MLA is to practice medicine. He must touch patients. He must never lose the feel of and concern for the patient. Understandably his practice will have to be of a special nature both in time and scope. However, this can be worked out in a group practice, a medical school, or both. His medical specialty likely will be internal medicine, pediatrics, or family practice.

Medical Legal Administrator candidates are not going to be great in numbers, because of the circumscribed specialty. Neither will every medical school be equipped to offer training necessary for the MLA. Therefore, MLA training grounds will be few but they must be of high quality. However, I submit the Virginia Commonwealth University has most of the makings. The necessary arrangement with the T. C. Williams Law School should be no great problem. The University of Virginia has all the necessary ingredients now.

Tom, I discussed this idea with one of my lawyer friends who is also a seasoned legislator. When I asked his reaction, he replied, "Bill, I'd be frightened by him—he's too well trained."

Think it over, Tom, it's no problem to plant the seeds of this idea by drafting appropriate Medical Legal Administrator Resolutions for The Medical Society of Virginia's House of Delegates to consider in a most appropriate setting. Next November the Society's House of Delegates will meet just down the street from the House of Burgesses in Williamsburg where many of the seeds of America's greatness were planted.

Sincerely Yours,

W. J. Hagood, Jr., M. D.
Speaker of the House of Delegates
The Medical Society of Virginia

Medicine in Virginia as the Governor Sees It

MILLS E. GODWIN, JR.
Governor of Virginia
Richmond, Virginia

I am delighted to be present for the Quarterly Meeting of the Richmond Academy of Medicine this evening.

I assume that since on last Sunday I became a doctor myself as a result of the generosity of the University of Richmond this was the reason for the invitation this evening.

Of course, you realize that mine was an honorary Doctor of Laws, but this may be more appropriate to the field of medicine than some of us would like to admit.

For a good many years now government at every level has become more and more involved in the delivery of health care and inevitably to an increasing degree in the practice of medicine itself.

The problem is not so much government actually practicing medicine, although the field of public health medicine certainly has been expanding. The thing that concerns you and me even more is that government is telling the doctors how to practice medicine.

At least government is having more and more to say about what the doctor charges for practicing medicine, and this seems to be inevitable whenever tax money is involved. Perhaps this is as it should be, certainly from the taxpayers' standpoint.

Certainly government is and should be involved in the training of medical personnel. There needs to be standardization. There needs to be proper equipment. There is a responsibility on government to make certain that a sufficient number of health care personnel are available and properly trained.

Here in Virginia we are fortunate in having two regional medical schools in the Medical College of Virginia and the University of Virginia.

Presented at the meeting of the Richmond Academy of Medicine, May 14, 1974.

I have been a firm supporter of a third such installation in the Tidewater area.

Certainly we do not yet have too many M.D.'s in Virginia or in the nation when the demand for health care continues to rise with our increasing affluence.

I have been delighted to see that in Virginia we are achieving a better balance between the specialists and the primary care medical men.

I understand that our classes are increasing in enrollment, and we are perhaps closer than we have been in recent years to catching up with our needs.

We still have the problem of distribution in which our people in rural areas continue to have difficulty in attracting doctors and modern equipment and clinics in their areas.

But I would like to think that our highway system in Virginia, particularly the State's own arterial system with its goal of linking every town with a population of 5,000 or more has provided at least some relief in this connection.

There are few places in Virginia, and they are becoming more scarce all the time, where a patient cannot be rapidly transported to the location of adequate medical help.

We all realize this is not a full solution and I would certainly encourage the young doctors preparing themselves for service in the field of primary care to consider some of the attributes of the Virginia countryside.

There is still a need in those rural areas for ambulance service or for expanded support of our rescue squad system. There is a further increase in the availability of well-rounded medical care.

It has also been a source of satisfaction to me to see that our Virginia doctors have been

delegating more responsibility to their nurses and para-medical personnel.

We have seen this trend help to overcome shortages of engineers and other specialists in the sciences, and certainly the medical profession can benefit in the same general way.

Personally, I have been delighted to learn that in Virginia our patient usage of hospital beds is down to an average of seven days per patient which is about the national average.

Our State Health Department has instituted one of the earliest services in the nation for locating beds in nursing homes where those recovering from major illness or suffering from some chronic illness associated with the elderly can find comfort and release hospital beds for other patients.

And I am proud, too, of the approach we have taken in Virginia and the results we have achieved in the administration of the Medicaid program.

Unlike many other states we have managed to stay within our budget, and we have taken what I feel is a realistic approach to the question of eligibility.

I certainly hope that when National Health Insurance comes—and I say "when" advisedly —it will include as wide a use of existing machinery as possible and as much local administration as is consistent with its purpose.

Certainly the trend towards medical care available to everyone is apparent.

We have seen it begin with Medicare for the aged and infirm and proceed to Medicaid which includes the medically indigent.

As you know, there are a number of bills already under consideration in the Congress with varying degrees of federal participation and control. I think we might as well prepare ourselves for the day, and that right soon, when one of these will become the law of the land.

I say again—I hope when it does come it will permit us a maximum of local administration and definition.

Hopefully also it will be realistic in its attempts to separate the concerned well from the really sick. Hopefully there will be help with the problem of the geriatric patient, many of whom now have no adequate place to spend their last years and are filling up our mental hospitals. I think the State itself also has a concern here as we do with the alcoholic who presents us with the same sort of problem.

And finally, I hope that in the essentially political process of determining the scope and level of federal health care guarantees we will not wind up overloading our health care delivery system which is just now beginning to emerge from a period of dislocation and imbalance.

I would confess that I do not have a pat set of answers for you. I am not sure that anyone does.

I do suggest to you that the medical profession itself needs to take an active and a vocal role in proposing solutions to the problems that remain with us.

Especially do I hope that groups like the Richmond Academy will keep us informed at the State level so that we can do what we can to help shape national policy.

There is no question in my mind that politics in the broad sense is going to be an increasing part of your professional lives. As a consequence, it ought to be an increasing part of your personal and your organizational concern.

Your calling will suffer just as mine is now suffering from a great wave of public suspicion and disenchantment that is sweeping this nation.

The danger is always that in casting about for a solution, the cures that are proposed may be worse than the disease.

But in the larger sense, I think that health care will be one of the areas on which the growing expectations of our people will center in the years ahead.

This great nation of ours has solved so many problems, it has provided such an increasingly high standard of living, it has amassed a technology constantly performing miracles, and our people's expectations have constantly been raised.

Part of today's discontent, I think, stems

from the fact that these expectations have not been met fast enough or fully enough.

We have certainly run short of miracles.

And our people tend to feel that in our swift pursuit of material things we have endangered our moral fiber and our spiritual strength.

In any event, I think that medical care, as I have said, will be a matter of major concern when our people again turn their energies to producing solutions rather than uncovering more uncertainties.

As a nation we have tried our hand at eliminating poverty.

We have tackled the national problem of decent housing for every family.

We have made a beginning with respect to the aging.

It seems logical to me that that high among our national priorities now will be the area of health care.

Again I hope that rather than to try to cram us all into a single mold devised in Washington, we will instead devise partnership in which each state may tailor its solution to its own particular needs.

LET'S REMINISCE!

To Check Epistaxis,

Inject a glass syringeful of lemon juice into the nose, after it has been cleansed of clots. This treatment (sys *Med. Summary*) will stop bleeding after everything else has failed.

(Virginia Medical Semi-Monthly, Vol. 3, July 8, 1898)

The SS Arctic and Professor Johnson

HARRY J. WARTHEN, JR., M.D.
Richmond, Virginia

IN 1840 Samuel Cunard founded the Cunard Steamship Line which continues to operate today. Cunard steamers sailed between Liverpool and Boston, and the company enjoyed the handsome subsidy of £ 60,000 a year for transmitting the mail. After watching British ships enjoy this lucrative franchise for nearly a decade, a group of New York investment bankers decided this situation must not be permitted to continue.

On November 1, 1847, five New York financiers formed a competing steamship line. James Brown of the banking firm of Brown Brothers and Company, of 59 Wall Street, became president. Edward K. Collins became general manager. His name has always been associated with the company and it was referred to as the Collins Line, although it was officially designated the New York and Liverpool United States Mail Steamship Company.

On the day the company was incorporated Edward Collins and Secretary of the Navy, John Y. Mason, signed a contract specifying the Collins mail steamers would be made available to the Navy as transports in case of war. Mr. Mason may be recalled also as former Minister to France and a citizen of Richmond. In return for this concession Congress promised the fledgling American line a subsidy of $33,000 per round trip for its fortnightly Atlantic crossings.

A wealth of material regarding the Collins Line, and the tale of the steamship Arctic, were painstakingly collected by the great-grandson of President Brown, and published in 1961 by Alexander Crosby Brown.[1] Mr. Brown's narrative has been drawn upon shamefully, but fortunately the writer has received the generous blessings of its author. Mr. Brown now resides in Newport News where he has been literary editor of the *Newport News Daily Press* for the past two decades. His reviews appear frequently in the *Richmond Times-Dispatch* and the magazine of the Virginia Historical Society.

The Cunard and the Collins Lines immediately became deadly competitors for the trans-Atlantic trade. Edward Collins, in the traditional American way, undertook to build bigger and better and faster ships. His liners were designed by George Steers who is now recalled as the marine architect of the Yacht America, which bested the British schooners and brought the cup to the New York Yacht Club where it remains today. The ships used by the two competing lines had several fundamental differences. The Cunard liners stressed sturdy construction with water-tight compartments below decks for safety in case of damage to the hull. This design resulted in a somewhat lessened capacity—in fact these vessels could carry only 90% of the tonnage transported by American ships.[15] On the other hand the Collins Line featured lighter ships with more emphasis on the latest Victorian furnishings in the public rooms and more powerful marine engines beneath deck.

One significant omission in the Collins design was the lack of water-tight compartments below decks. Author Alexander Brown pointed out that the hulls were wide open from stem to stern and followed the general design of an Indian canoe. The Collins ships did conform to American maritime laws which required six life boats on each passenger ship of more than 1500 tons. This casual rule of thumb actually exceeded the number of lifeboats required by Lloyds of London. But little thought was given, it seems, that six completely filled lifeboats could barely provide for one-half of the passengers and crew carried by a Collins liner.

Walter Reed Lecture, read before the Section on the History of Medicine, Richmond Academy of Medicine, February 26, 1974.

Be that as it may, on the 28th of January, 1850, the third and largest ship on the Collins Line was launched and christened the Arctic. The preceding two Collins steamships were named for the Atlantic and Pacific oceans. The Arctic was designated the flagship because of her size and the powerful two thousand horse power steam engines that drove her giant paddle wheels. One lesser refinement was missing. There was no figure head on its prow. Perhaps this feature was omitted deliberately, for the first time a Collins ship appeared in Liverpool Harbor a British critic was prompted to report, "the figure head is of colossal proportions, intended some say of Neptune; others say that it is the old Triton blowing his weathered horn, so lovingly described by Wordsworth; and some wags assert that it is the proprietor of the ship, blowing his own trumpet." [1]

The Collins liners did introduce furnishings and services unknown in trans-oceanic travel. The woodwork in the public rooms were panelled and inlaid with satinwood, rosewood and holly. Each state room was heated by a small steam radiator. A barber with a complete barber shop was available to passengers. Pull cords in all state rooms brought prompt service. Such amenities were unknown on Cunard ships, or elsewhere for that matter.

The early trans-Atlantic crossings of the Arctic lived up to its earlier predictions. Two years after its launching it set a record for East bound crossing, requiring only nine days and seventeen hours from New York to Liverpool. This time compares favorably with most vessels plying the Atlantic a century later. Following this crossing, *Punch Magazine*, which has never been partial to things American, penned the following jingle:

"A steamer of the Collins Line
A Yankee Doodle notion,
Has also quickest cut the brine
Across the Atlantic Ocean.
And British agents, no way slow,
Her merits to discover,
Have been and bought her—just to tow
The Cunard packets over!" [1]

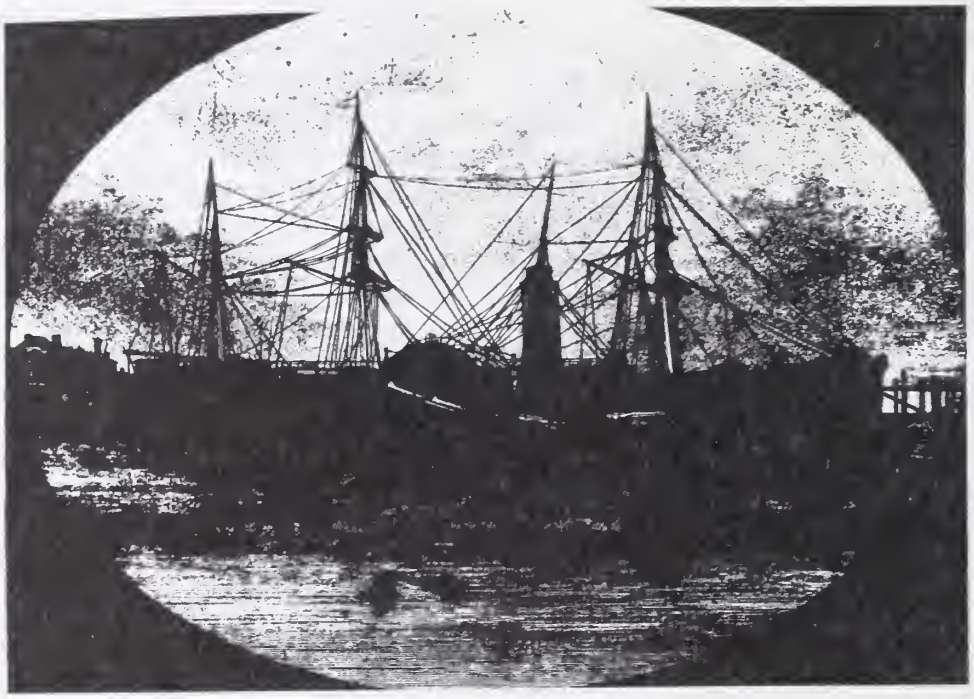

Fig. 1. Collins Line Steamship *Arctic* taking on coal at foot of Canal Street. (After daguerrotype—1853) Courtesy of The Mariners' Museum, Newport News, Virginia.

Charles Dickens, also one of America's less ardent admirers, first crossed the Atlantic in the Cunarder Britannia and complained bitterly of its Spartan facilities. On the other hand he approved wholeheartedly when he returned on the Arctic for "the staterooms are really rooms provided with every comfort which can be desired. There are beds to accommodate two hundred passengers. Some of these rooms have large double beds with French bedsteads and rich curtains." Author Brown ventured the thought the latter were bridal suites. The ultimate tribute was paid by the Reverend Mr. Abbott who, though subject to motion sickness, wrote in his diary on a stormy night, "our ship rises and plunges over these vast waves with much grandeur . . . . magestically sickening, sublimely nauseating."[1] With accolades from such unexpected and diverse sources the Collins Line prospered and was soon transporting most of the illustrious who wished to visit our shores.

This, then, was the situation when on the twentieth of September, 1854, the Arctic steamed out of Liverpool with a passenger list of 282 and a crew of 175. The unusually large number of passengers represented Americans returning home from late summer tours in England and the continent. Included on the list were seven members of the family of President Brown of the Collins Line. These included a son, two daughters, a daughter-in-law, and two grandchildren. The Collins family also was well represented. Mrs. Collins, wife of the General Manager of the line bearing his name, with two of her children, her brother and her sister-in-law were also aboard.

Two professors returning to their teaching duties included Dr. Henry Hope Reed of the University of Pennsylvania, and a young teacher of anatomy in a southern medical school, about whom we shall learn more. The master of the Arctic, Captain James C. Luce, a Virginian and an Alexandrian by birth, brought his crippled eleven-year old son, William, in the hope the sea air would be beneficial. A well-to-do Scottish iron monger, James Smith, who had recently moved to Jackson, Mississippi, was also aboard and, true to his native upbringing, traveled second class.

With this happy group aboard the first six days passed quickly. The seventh morning found the Arctic off the Grand Banks east of Newfoundland and for the first time, fog was encountered. Visibility was limited to less than a mile but speed was not reduced, for the ocean appeared empty. Perhaps it occurred to Captain Luce, that with the families of the president and general manager aboard, this would be the perfect occasion to add another pennant to his ship's mast by setting a new westward crossing, to match the east-bound record already won by the Arctic.

Suddenly though, without warning, the fog became denser, and moments later a dark object appeared out of the mist. This rapidly took the form of a small iron-hulled French steamer on a collision course with the Arctic. Neither ship had time to change course and the Vesta, as the French craft was named, glanced off the starboard bow of the Collins flag ship with hardly more than a slight jolt. The Arctic's tonnage exceeded that of the Vesta by twenty-fold and the impact was so slight that everyone directed his attention with misgivings as to the safety of the little French freighter. Captain Luce thought the Vesta was in danger of immediate sinking and dispatched his first officer with one of the six lifeboats to its aid.

But the wounds of the Arctic were far more grievous, for its own anchor and a part of the iron prow of the French ship had been driven into its hull beneath the water line. Water poured into the Arctic and rushed throughout the length of the hull without hindrance, for there were no compartments to impede its progress. Captain Luce realized his own ship was sinking and resolved to make a dash for the Newfoundland coast. Meanwhile a second lifeboat had been lowered with the second mate aboard to inspect the damage to the bow of the Arctic, and as the steamer picked up speed, this boat was drawn into and ground to pieces by one of the massive paddle wheels.

There were now only four lifeboats left on the deck of the Arctic and their total capacity did not exceed 100 persons.

The accelerated speed of the ship brought in more water and it rose rapidly in the engine room. Only one hour after the collision the fires went out and the firemen came up on deck. The stokers, abetted by other members of the crew, brushed the passengers aside and took over the remaining boats. The only lifeboat that contained passengers capsized as it was being lowered. Captain Luce attempted to regain control but the crew was completely out of hand. It was not America's greatest hour on the Atlantic sea-lanes.

seven members of President Brown's family were lost—none of the five Collins was saved.[1]

Our Scotsman James Smith, on the premise that "The Lord helps those who help themselves" built a miniature raft of a few boards and shoved away from the ship. A few minutes later a zinc encased wicker kitchen basket floated by. Always an opportunist, Smith attached the container to his raft. Seated in this miniature bath tub he rode out the disaster and lived to tell the tale. After mature thought he decided that Scotland was more to his liking and he sold the hardware store in Mississippi to his brother. Thirty years later he made a final sentimental journey to Jackson when he

Fig. 2. The last moments of the *Arctic*. Captain James C. Luce and his crippled son are in the center; Stewart Holland, on left, fires signal gun; third mate Dorian, on right, assembles raft. Courtesy of The Mariners' Museum, Newport News, Virginia.

A small raft was assembled on the deck of the Arctic and floated off as the vessel sank. About 80 passengers sat or stood ankle deep in the icy water. But one-by-one they gradually slipped away and only one survived. Sixty-five crewmen from a complement of 175 reached the Newfoundland coast. Two hundred and eighty-two passengers boarded the Arctic in Liverpool—24 survived the westward crossing—fewer than 10%. All of the

brought over a monument of Scotch granite as a memorial for his Confederate brother, Robert, who died in the Battle of Munfordville, Kentucky.

After the world learned of the shipwreck, strict maritime laws were passed to obviate similar disasters. One of the lasting rules was the charting of separate east and west bound lanes designed to "lessen liabilities by diminishing the chances of collision". The author of

these rules was none other than young Lieutenant Matthew Fontaine Maury of Virginia. The use of fog horns, whistles, navigational lights and other safeguards also resulted from the catastrophe.[1]

All of these precautions stemmed from this accident, for the sinking of the Arctic in 1854 was the most spectacular and costly Atlantic shipwreck during the nineteenth century. Not until the sinking of the Titanic, 58 years later, was the loss of life surpassed. But stories about the Titanic, the Lusitania and other major disasters have virtually wiped out all recollection of the Arctic, except, of course, in the lingering memories of the families immediately concerned. The public lost confidence in the Collins Line and the company, in turn, lost its subsidy. The Cunard ships again ruled the Atlantic and Americans who desired to invest in public transportation purchased stock in the rapidly expanding railways in the west.

patch as a possible victim.[2] He was reported as a "young and popular physician of our city and a Demonstrater (*sic*) in the Medical College." In another article in the same paper a more detailed account ended by stating "we know of no man in the medical profession in Virginia who by fine talents, extensive acquirements, a generous ambition and an unflagging devotion to his noble calling bade fair to rise to a more exalted position than Carter P. Johnson. Most earnestly do we hope the fears of the community in regard to his fate may prove unfounded." [2]

Victorians always praised those who had passed on—they even praised the medical profession in those days—but the eulogies that appeared after Dr. Johnson's death were numerous and heartfelt. The first article that was called to the author's attention regarding his death,[3] and the circumstances attending it, was found in the December, 1854, issue of the

Fig. 3. The sinking of the *Arctic*. (Currier lithograph, 1854) Note the overloaded raft on the left; the lifeboat that never reached shore in foreground; Scotsman James Smith at extreme lower right, wearing high silk hat. Courtesy of The Mariners' Museum, Newport News, Virginia.

The initial news of the disaster appeared in the Richmond *Daily Dispatch*[2] on the eleventh of October. Three days later Dr. Carter Page Johnson, of Richmond, was listed in the Dis-

Stetheoscope,[4] the first official journal of The Medical Society of Virginia. The editorial was long and lugubrious, but sincere in its tribute. Other articles followed and the question arises

why we, today, are not as familiar with Dr. Johnson's career as we are with so many of his medical contemporaries who contributed far less than did Dr. Johnson during his brief life. In fact, we have far more documentation regarding earlier members of the Johnson family[5] than we have with the doctor's generation, and even less knowledge regarding his children.

Dr. Johnson's father, Chapman Johnson of Louisa County, was a graduate of William and Mary College. He was also a member of the Board of Visitors of the University of Virginia from 1819 to 1845, where he had the distinction of being one of the few early members of the Board who had not served as president of the United States. Chapman Johnson moved to Staunton and after marrying Mary Ann Nicolson of Richmond he came to this city in 1824. During the remaining 25 years of his life he became one of Richmond's outstanding attorneys. He was active in the formation of the James River and Kanawha Canal; he served as a delegate to the Constitutional Convention of 1829-30 and as a pallbearer at John Marshall's funeral.[6]

Carter Page Johnson was the third of four children. He was born on March 18, 1822. We are told "his boyhood and youth were marked by the characteristics of his after life: gentleness of disposition, amiability, a noble rectitude of purpose, and a degree of application rarely exhibited at so early a period of life." [4]

He studied in local schools which evidently gave him an excellent basic education. On the third of September, 1839, he matriculated at the University of Virginia following a faculty meeting two months earlier, in which he was voted a "certificate of proficiency" in Latin Language and Literature, French Language and Literature, Spanish Language and Literature, and Mathematics—all at the tender age of 17. One year later, after ten months in residence, on July 4, 1840, he was voted "Master of Arts." [7]

Two years later at the age of 20, Dr. Johnson received an M.D. degree from the medical school in Richmond, then a part of Hampden-Sydney College. Several years after his graduation he married Anne Love Forrest of Washington, the daughter of a naval officer. Dr. Johnson, no doubt, entered the practice of general medicine, for one of his sympathetic nature and fine sensibilities would hardly have relished the performance of operations before the introduction of anesthetics. Ether was first administered by Crawford Long of Georgia in 1842, just two months before Carter's graduation, but a public demonstration of its anesthetic properties was delayed until 1846.[15] The American Medical Association recognized the advantages of operating during the unconscious state two years later and it was generally accepted in Virginia in 1850.[8] Dr. Johnson, meanwhile must have been waiting for the arrival of this happy solution to surgery's greatest problem, for he published in 1851 no less than five articles dealing with operations performed under ether or chloroform. During the interval between his graduation and the availability of these long-sought drugs he must intuitively have been preparing himself for the opening of this great new field of medicine. He earlier had introduced the microscope for the examining of tissues[8]—the first recorded use of this instrument as a teaching aid in Richmond. In 1847, after having served as "an efficient and highly competent demonstrater" in the anatomical department, he was elected to the chair of anatomy. A proficiency in anatomy has always been a stepping stone in the pathway to surgery. He continued in this post, and to his duties were later added the professorship of physiology.[4]

In 1855, Dr. Henry H. Smith published a *System of Operative Surgery*,[9] and devoted the major part of his book to a summary of the most worthwhile articles published by American surgeons. Six reports by Dr. Johnson were included. The only Virginian whose articles exceeded Johnson's was Dr. Peter Mettauer, who had nine. In order to give perspective to this comparison, it must be remembered that Dr. Johnson performed surgery for less than six years. Dr. Mettauer, on the other hand, for many years was professor of surgery at the Prince Edward Medical Institute, a branch of Randolph-Macon College. He re-

ceived his medical degree in 1809, thirteen years before Dr. Johnson was born, and he operated throughout his entire life which came to a close in 1875, twenty-one years after Dr. Johnson's death.[8]

Five of the articles published by Johnson, and included in Smith's System, appeared in 1851. The titles indicated the variety of surgical conditions this young man treated, and the results that followed these procedures. Two cases of removal of stones from the bladder under chloroform resulted in cures.[10] A carcinoma of the mouth necessitated removal of two-thirds of the patient's lower jaw,[11] a major operation by any standard.

A massive sarcoma of the breast weighing four and a half pounds, and measuring 24 inches in circumference, was excised on the third of May, 1849.[12] The tumor had been partially removed two years earlier in Petersburg. The patient was warned by Dr. Johnson that recurrence was most likely, but she insisted upon the operation. The surgical aids available were hardly adequate to cope with a procedure of that magnitude, and one marvels both at the courage of the patient and the fortitude of the surgeon. The description of the operation, which was carried out in the Egyptian Building, and the succeeding daily progress notes would have been approved today by the most exacting hospital inspector. The lady, I regret to report, succumbed on the twenty-sixth of June—54 days after the operation. Dr. Johnson must have established favorable rapport with her family for a post-mortem examination was granted. This revealed that the tumor had spread to the lower abdomen. Good surgeon that he was, Johnson added a lengthy and thoughtful postscript to the hospital record describing his findings and adding how he would endeavor to avoid the pitfalls should a similar condition be encountered. Dr. Johnson's descriptions and methods were a study in contrasts—some of his conclusions remind one of ancient Greek medicine while other ideas anticipated the modern age of surgery.

Our surgeon's scientific zeal never obscured his sympathy for the patient; this comes through to us clearly in the case of a three year old girl with severe laryngotracheitis—then described as simple croup.[13] Home remedies were used by the family for the first two days of her illness. These included a plaster of Scotch snuff to the chest and a necklace of six leeches about her neck. Dr. Johnson was not called until the third night about eight o'clock when breathing had become labored. He returned at midnight and remained until three. At eight o'clock the following morning he again visited his patient. Early that afternoon he decided that medical measures were of no avail and a tracheostomy was done. The child rallied sufficiently to permit the good doctor to visit his office. At eight o'clock that night Dr. Johnson thought his patient was doing well but shortly before midnight he was summoned in great haste. The inflammation had extended to the tracheostomy opening and the tube had been coughed out. He spent the remainder of the night holding the margins of the trachea apart but his patient died at nine o'clock the next morning. In retrospect he recorded he should have given more calomel and ipecac immediately after the operation.

Orthopedic surgery and especially ununited fractures gave some problems but Dr. Johnson's results were generally good,[15] especially in view of the total absence of any knowledge in the mid-nineteenth century regarding germs or the need for antisepsis and asepsis. Perhaps the most rewarding operation performed by Dr. Johnson was reported in 1852.[14] It seems that J.B.L., age 21 years, who lived near Natural Bridge decided sometime in 1851 to carve his initials above those of anyone else on the perpendicular wall beneath Virginia's great natural wonder. Dr. Johnson pointed out this was "a dangerous and senseless thing to do" especially so on the part of one who had been so active in the local chapter of the Sons of Temperance. We do not know if young J.B.L. reached the reputed initials of George Washington but at the height of 30 feet he lost his grip and fell to the rocky bed of Cedar Creek which flows beneath Natural Bridge, and struck the left side of his head.

His scalp was shaved and ice water applied. He regained consciousness aften ten days and gradually recovered.

But 15 months after the fall the young man had his first convulsion. Two weeks later a second occurred, and three weeks later a third seizure was had. At this juncture he was brought to Richmond and examined by Dr. Johnson, who found a deep scar in J.B.L.'s left temple. Shortly afterwards, under a general anesthetic, "two crown pieces of bone were removed—one the size of a Spanish quarter—the other about the size of nine pence." The bridge of intervening skull was also removed and pressure on the brain was released. The skin flaps were brought together loosely and a cold water dressing was applied.

All went well for two weeks but one day, while playing backgammon, J.B.L. had another convulsion. Six weeks later, this time while playing whist, he had a second seizure. Shortly afterward he must have resigned from the Temperance Union, and perhaps also gave up playing cards, for according to Dr. Johnson's report "he has since indulged at times in both excesses of eating and drinking and has often been subject to moral excitements. Notwithstanding this, he has had no relapses and enjoys a fine and uninterrupted health as any gentleman in this city." Dr. St. George Peachy, who assisted in the operation, reported in 1857 that J.B.L. continued to enjoy the best of health.[14] In closing, Dr. Peachy noted "it is interesting in itself and one of the many monuments attesting the skill of our much lamented friend, Professor Johnson."

While these exciting operations were taking place, other medical activities were afoot in Richmond. Our local medical Society was founded in 1820 but the misleading name—The Medical Society of Virginia—was adopted, despite the fact the membership was limited to doctors in the Richmond area. Physicians throughout the State became increasingly resentful of the monopoly of this name by the Richmond group. In 1852, this situation was remedied when the original name was adopted by the newly organized statewide group, and the local society, of necessity, became the Richmond Academy of Medicine.[8]

This traumatic severance—and there was more to it than a mere changing of the name—had hardly been accomplished before new storm clouds gathered, this time about the Egyptian Building. In a gown-versus-town controversy, the parent Hampden-Sydney College saw fit to appoint a new professor to the medical college without consulting the local faculty. The professors felt their prerogatives had been violated. They even hinted that Presbyterianism had entered into the decision. The State legislature was requested to dissolve what had now become an unhappy relationship. In February, 1854, the legislature granted the medical school a charter and the Medical College of Virginia came into being as an independent institution.[8]

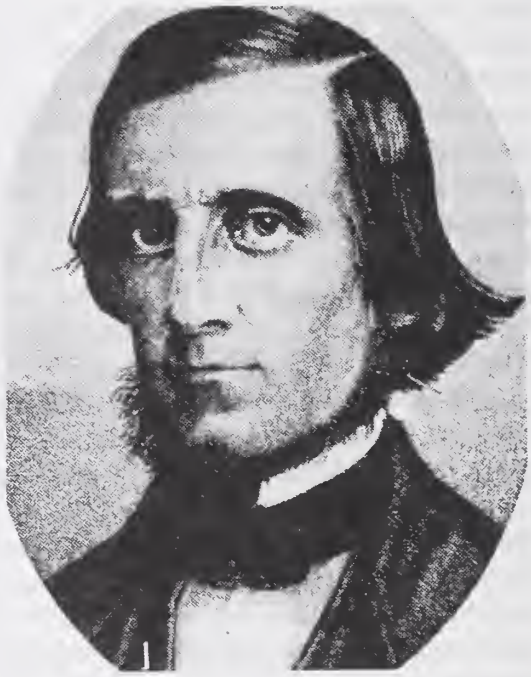

Fig. 4. Professor Carter Page Johnson (1822-1854). President of The Medical Society of Virginia 1854. Medicine in Virginia in the Nineteenth Century. Garrett and Massie.

Thus within a period of two years the physicians of Richmond found themselves divided into four antagonistic camps. As was not always the case on other occasions, cooler heads prevailed, and an effort was made to bring the

dissident groups together. In order to bridge the major divisions and smooth the ruffled feathers, it was decided a popular member of the faculty would be the logical choice for the presidency of the newly organized state society. Carter Johnson appears to have been the only physician who had not participated in the controversies, and on April 4, 1854, he was elected president of The Medical Society of Virginia on the first ballot. As we now know, his role as a peace maker was short lived. As soon as the spring term was over he embarked for Great Britain where he visited Sir Benjamin Brodie's Clinic in London and other medical centers.[15] He moved up his date of departure from England in order to be in Richmond for the opening of the fall term. The sinking of the Arctic and the role of Dr. Johnson in mid-nineteenth century medicine deserve larger foot-notes than have been accorded them in American and in Richmond history. It is understandable that the readers of this article alone are aware of the life and tragic death of this gifted young man who had accomplished so much in the brief thirty-two years allotted to him. His wife had died in the early eighteen-fifties and his three children were doubtless raised in the families of his brothers or sister, all of whom apparently had moved away from Richmond before his death.[5]

It was puzzling, however, that our local historians, Mordecai,[15] Little[15] and Christian[6] did not mention Dr. Johnson in their writings, for they frequently referred to Richmond physicians of the period. In fact, Dr. Little was a physician himself. Even the late Wyndham Blanton in his definitive account of Virginia medicine dealt briefly with Carter Johnson and erred in the date of his death by a year.[8] In retrospect it seems the writer of the editorial in the *Stetheoscope* anticipated all this, for he closed, as I shall do, with the prophetic words:

"In the death of Dr. Johnson, the Medical College of Virginia has suffered a loss not easily repaired—whilst a general sense of bereavement throughout a large community bears testimony to his professional and private worth. We know that such feelings are not lasting—and wisely is it so ordained—

"Even those who were indebted to his skill, or were the recipients of his unostentatious charities will ere long cease perhaps to remember their benefactor. It matters not. The *good* that men do lives after them! And though their deeds be noted in perishable tablets here, still there is a record on high, and there, 'their works do follow them.'—D." [4]

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2304 Monument Avenue
Richmond, Virginia 23220

Outpatient Clinical Center Study of Recurrent Aphthous Stomatitis

The cooperation of physicians and dentists is requested in the referral of patients for a therapeutic study of aphthous stomatitis being conducted by the National Institute of Dental Research at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Needed are patients with the typical and recurrent oral ulcerative lesions of aphthous stomatitis (i.e. not herpes, or "fever blisters"). Studies will include physical examination, blood tests, and weekly short visits to the Clinical Center.

Accepted patients will be given one of three therapeutic regimens in a double-blind outpatient trial, and will be asked to keep a diary of their oral ulcers. Upon completion of their studies (approximately 24 weeks) patients will be returned completely to the care of the referring physician.

Dentists or physicians interested in having their patients considered for admission to this outpatient study may write or telephone: E. A. Graykowski, D.D.S., M.D. or N. A. Cummings, M.D., National Institute of Dental Research, Clinical Center, Room 2B-19, National Institutes of Health, Bethesda, Maryland 20014. Telephone: (301) 496-4571

Operating Room Assistants Program

LEVI OLD, JR., M.D.
T. LANE STOKES, M.D.
JAMES R. KING
Norfolk, Virginia

Since the 2A program was developed in Norfolk in 1964, it has supplied exceedingly satisfactory assistance to the operating surgeons of that city.

THE EVER INCREASING COMPLEXITY of modern surgery demands more technically qualified operating assistance. That such assistance is all too often inadequate was recognized, at least in some quarters, more than ten years ago.

Writing editorially in the April, 1962, issue of the *American Surgeon,* William H. Prioleau, M.D., of the surgical staff of the Medical College of South Carolina in Charleston, deplored the trend toward performing major operations with a single surgical assistant. It was his belief that such inadequate help for the operating surgeon inevitably leads to more frequent and more severe intraoperative and postoperative complications.

Dr. Prioleau noted that traditionally the position of second assistant had usually been assigned to interns, the resulting experience forming a valuable part of their training. In hospitals affiliated with medical schools, on the other hand, students were sometimes utilized as second assistants, and in some smaller hospitals nurses served in that capacity. Whatever the system of procurement, however, all shared a common drawback: many interns, medical students, and nurses are simply not interested in surgery and lacking strong motivation, make, at best, poor, unenthusiastic assistants especially in long or repetitious operations. Rather than depend upon these familiar but frequently unsatisfactory channels of recruitment, Dr. Prioleau advocated the employment of "high school graduates trained as second assistants".

Dr. Prioleau's view that the need for properly qualified second assistants is a valid one shared by the present authors. A good second assistant improves the technical performance of most major operations. He is essential to the safe, satisfactory conduct of surgical procedures in which exposure requires flexible and controlled retraction, especially where self-retaining retractors are impractical.

In 1963, some of the younger surgeons practicing at Norfolk General Hospital, a large community hospital in Norfolk, Virginia, were directly experiencing the effects of inadequate technical operating assistance, especially in major cancer, vascular, and thoracic surgery. As a result, the Norfolk General Hospital surgical staff conducted a survey of the problem, considering a number of alternatives without, however, finding an altogether satisfactory solution. Scheduling surgeons to assist each other and relegating the small but excellent housestaff to the role of second assistant seemed a poor expedient. Increased housestaff recruitment promised no relief, and using nursing personnel was impossible, as they were already in short supply. In 1963, the Eastern Virginia Medical School's potential as a source of medical students willing to serve as operating room participants seemed far, far in the future.

At that time James R. King, a retired United States Navy Hospital Corpsman with extensive training and experience, was working at Norfolk General Hospital on a part-time basis as an operating room scrub technician. Because of his obvious qualifications, he was drawn

Presented at annual meeting of the Virginia Surgical Society, Hot Springs, April 26-27, 1974.

into the discussions, both of Dr. Prioleau's editorial and of the local situation. A series of meetings followed with leaders of the surgical staff, the hospital administration, and the nursing service; and the second assistant, or 2A program as it came to be called, was born in early 1964, with Mr. King as Director. Its goal from the beginning has been to supply well-trained, reliable, technically qualified second assistants.

Initially there were three 2A's at Norfolk General only, but success has brought growth. There are now eight at Norfolk General and four at DePaul Hospital, another large Norfolk community hospital. Each of these 2A's is a graduate of an Armed Forces Basic Hospital Corps School as well as a school for Operating Room Technicians. All have had surgical combat experience.

Because Tidewater Virginia has many active and retired qualified military personnel and the armed forces have furnished a valuable source for candidates for this program, it has fortunately never been necessary to set up a basic training program. Director King carefully evaluates the qualifications and background of each 2A job applicant and then institutes his own personalized training program for the individual to be trained.

The basic job description as specified by the two participating Norfolk hospitals, Norfolk General and DePaul, reads as follows:

Surgical Assistant

I. Educational Qualifications
   A. Must be a High School graduate or higher.
   B. Must be graduate of an approved school for Operating Room Technicians.
   C. Must have a minimum of 4 years as an Operating Room Technician.

II. Personal Qualifications
   A. Must be clean and neat in appearance.
   B. Must have a sincere dedication to his work and be willing to work long hours.
   C. Conduct and character must be above reproach.
   D. Must be honest and always be considerate in his dealings with others.

III. Performance Requirements
   A. Be capable of efficiently rendering assistance either as a first assistant or second assistant to the surgeon.
      1. This means that the Surgical Assistant must have a thorough knowledge of anatomy.
      2. Must be familiar with various surgical positions used in the different operative procedures.
      3. Must be knowledgeably familiar with the various materials used as sutures and the areas of anatomy in which different sutures are used either as free ties or as sutures.
   B. Must be thoroughly familiar in sterile techniques that are practiced in the Operating Room Suite.
   C. Must cooperate with the scrub nurse and circulating nurse in the cleaning of the Operating Room in preparations for the next Procedure.

IV. Degree of Assistance
   A. The Surgical Assistant will be conservative in his actions on the table and assist only to that degree permitted by the surgeon.
   B. The Surgical Assistant is there solely to give efficient technical assistance to the surgeon, not to attempt to perform the surgery.
   C. If Surgical Residents are present, the Surgical Assistant is primarily used to supplement, not to replace the Surgical Resident.

Although the 2A's are under the supervision of the Medical Staff Operating Room Committee, they are, of course, directly responsible to the Operating Room Supervisor in their routine daily duties.

Each 2A keeps a record of his operating time. The time records are then submitted

to the hospital business office, and the 2A fee is applied to the patient as an addition to the usual operating room services charge. The 2A receives a basic fee for the first hour and then an additional amount for every 15 minutes operating time thereafter. Of course, the hospital business office subtracts the usual deductible items, such as insurance premiums, tax withholding, etc., as with any other hospital employee. The 2A's receive no payment for time between cases, waiting time, etc. They have an on-call system for night and week-end duty which serves equally well in emergency cases.

The fee-for-service arrangement with the 2A's has caused very little unhappiness to the nursing department. In fact, although conflict between the nursing service and the 2A's was anticipated, there has been virtually none. It has been carefully avoided by indoctrinating the 2A's to cooperate fully with the nurses in every way, yet without allowing themselves to perform orderly duties. All men of high caliber, they are treated with the dignity they deserve by surgeons, housestaff, and nurses alike.

The 2A's average about four to five cases per man per operating day. Thus the twelve men in the program are involved in approximately 10,000-12,000 cases per year, usually as second assistant but occasionally as first assistant on minor cases.

The case record of a typical 2A participating at DePaul Hospital in 1972 breaks down as follows:

General surgery including vascular	248 cases
Gynecology and Obstetrics	308 cases
Orthopedic	229 cases
Total	785 cases

In nine years operation of the program, there have been no medical-legal problems involving the 2A's, convincing proof of the value of the program and its general acceptance.

It should be noted that the 2A is altogether different from any of the products of the well-known, much discussed, and sometimes emulated curriculum for the training of physician's assistants which was initiated in 1965 by Eugene A. Stead, M.D., of Duke University. Dr. Stead's curriculum has evolved into a training program for the Type A assistant, a junior all-round doctor; the Type B assistant, a junior specialist doctor; and the Type C assistant, a junior testing doctor. The surgical 2A is none of these—nor is he a medical services assistant, a nurse practitioner, a "Medex" practitioner, a paramedic, or any of the other variations of "physician's assistant" who have appeared on the scene in the last few years. The surgical 2A is purely an operating room second assistant, or sometimes a first assistant.

This being the case, the 2A is not embroiled in any of the complicated politics of the American Medical Association, the American Hospital Associaton, and the American Public Health Association concerning physician's assistants. The AMA, for instance, is currently holding firm to its conviction that there is no need for surgical assistants (SA's). The American College of Surgeons, on the other hand, has announced that it favors surgical assistants. In publishing its suggested SA two-year course curriculum, ACS Director C. Rollins Hanlon, M.D., has said that the College "regretfully is acting independently of the AMA". However, this debate is concerned only with surgical assistants as junior doctors in the classic Stead-Duke fashion, as so ably discussed by David Sabiston, M.D., of Duke University at the 1972 Meeting of the Society of University Surgeons and published in the July issue of *Surgery* later that year. We do not believe that the true 2A is involved in this problem.

It is possible that in the future, as more physicians are trained, the doctor shortage may become less acute and the need for surgical assistants diminish accordingly. Even the Russians are currently de-emphasizing "feldshers"—their equivalent of physician's assistants. Even so, an ever greater need for pure 2A's is extremely likely, as more and more major surgery is performed. In these circum-

stances, it is ironic that while there are several recognized physician's surgical assistant education programs, no recognized programs or guidelines exist for the 2A's as such.

In this connection, recent correspondence with the American College of Surgeons resulted in a letter from Harold A. Zintel, M.D., Assistant Director, noting that "there are no guidelines or standards put out by anyone I know of on operating room second assistants." Even the Association of Operating Room Technicians, Inc., has stated that it does not have any information per se about the utilization of operating room technicians as second assistants. The Association believes however, that fairly widespread usage exists.

The 2A program will never reach its full potential without national recognition and approval, especially from the American College of Surgeons and possibly from the American Hospital Association. Such recognition is urgently needed.

In summary, the 2A's have vastly improved the performance of major surgery at Norfolk General Hospital and DePaul Hospital reducing materially the instance of intraoperative and postoperative complications. A system which has worked so well in Norfolk hospitals could be easily adapted to the needs and conditions of virtually any hospital.

802 Medical Tower
Norfolk, Virginia 23507

Snowmobile Noise Causes Deafness

The blasting noise of a racing snowmobile causes marked deafness among drivers and pitmen at the race track, and even is loud enough to cause some hearing loss among nearby spectators, says a report in the January *Archives of Otolaryngology*, a publication of the American Medical Association.

Manufacturers of snowmobiles are aware of the noise problem and are continually making efforts to reduce engine noise, says the report from two investigators at Central Michigan University, Mt. Pleasant, Mich. Despite efforts by the industry, 1971 and 1972 model snowmobiles are still loud enough to be a hazard to hearing. But the really blasting noise comes from the racing machines that have been "souped up" to go faster, with a consequent increase in the already high noise level, say Fred H. Bess, Ph.D., and Robert E. Poynor, M.A.

The investigators recommended that the snowmobile industry develop helmets that will protect the ears from the loud sound, as well as offer crash protection. Present helmets are crash helmets only. They also urge promoters of snowmobile races to arrange seating so that spectators are at least 18 meters, or about 16 yards, from the track.

The study was conducted on 21 racing drivers and five snowmobile mechanics. Average age of the drivers was 28 years, but their hearing loss averaged that of men between the ages of 51 and 57 years. Data was collected at Michigan's largest snowmobile racing event, the International 500 at Sault St. Marie.

Snowmobile riders, both those using the stock machines for pleasure trips and those involved in racing, may reduce the risk of hearing loss by wearing proper ear protectors while their engines are roaring. Spectators at the race track should keep a safe distance from the noise.

Medical Grand Rounds . . . .

From the Department of Medicine, University of Virginia Medical Center

Edited by
John F. Kiraly, M.D.
Richard E. Katholi, M.D.
Edward W. Hook, M.D.

Hodgkin's Disease

Discussion by—
CHARLES E. HESS, M.D.

Dr. Edward Hook: Many patients with Hodgkin's disease are referred to the University of Virginia Medical Center each year. Because our concepts about evaluation and treatment of this disease continue to change, we decided to review this topic today. The patient will be presented by Dr. Robert Bettinger.

Dr. Robert Bettinger: The patient is a 20-year-old white female college student who was admitted to the University of Virginia Hospital on January 2, 1974, for evaluation of a persistent pulmonary infiltrate of three months duration.

In January 1971 the patient was first admitted to this hospital for evaluation of painless left cervical and supraclavicular lymphadenopathy of four months duration. The patient denied any history of fever, weight loss or night sweats. A left cervical lymph node biopsy revealed Hodgkin's disease, mixed cellularity type. A chest roentgenogram showed widening of the superior mediastinum and an infiltrate in the right lower lobe. Staging of the disease included the following negative studies: inferior vena cavagram, lymphangiogram, bone marrow biopsy, and finally exploratory laparotomy with splenectomy, wedge biopsies of both hepatic lobes and biopsies of para-aortic, iliac and mesenteric lymph nodes. Mumps, intermediate PPD, Candida albicans and trichophyton skin tests were negative at this time. In February and March 1971, she was given 4,000 rads employing a split course technique on the 8MV linear accelerator to a standard mantle field plus 2,000 rads to the entire right lung. In April 1971, she was given an additional 3,400 rads to the para-aortic area below the diaphragm. In August 1972 the patient had herpes zoster involving the right flank at the level of T-12. In November 1972, she developed recurrent Hodgkin's disease in left axillary nodes at the margin of the previous mantle field. She was given 4,000 rads to this area and when seen in January 1973 she was asymptomatic and showed no evidence of disease on physical examination. She remained well until October 1973, when she noted mild shortness of breath on exertion and was found to have a left lingular infiltrate on chest film. She was followed closely and this lesion did not change. However, she was admitted to the hospital in January 1974 for further evaluation.

Physical examination revealed an attractive woman in no distress. BP 110/70, P 72, R 16, and T 37.2°C. The skin showed hyperpigmentation over the right flank in the site of the previous herpes zoster. There was no lymphadenopathy or hepatomegaly.

Laboratory data: Hct 36 ml/100 ml, WBC 10,000/mm^3 with 80 PMNs, 14 lymphs, 6 monos and platelets 600,000/mm^3. Chest roentgenogram showed a left lingular infiltrate.

Hospital course: On January 4, 1974, a

closed chest needle biopsy of the left lung lesion was obtained. The biopsy specimen revealed chronic inflammation and fibrosis. The patient was discharged on January 9, 1974, feeling well. No further therapy is planned at this time.

Dr. Hook: In summary this patient was found to have Hodgkin's disease three years ago and was treated with radiation therapy. She had a recurrence in the left axilla one year ago in an area which was outside the field of initial radiation. This area was irradiated. She enters the hospital now for evaluation of a persistent pulmonary infiltrate.

Dr. Cooper will review the x-rays.

Dr. George Cooper (Radiologist): This patient's chest x-ray on her first evaluation in January 1971 reveals extensive mediastinal disease and a small infiltrate in the right lower lobe which returned to normal following treatment. Her chest x-rays remained normal until October 1973 when a left lingular infiltrate appeared. This infiltrate has not changed in the past three months.

Dr. Hook: The patient is here. We have been reviewing some of the things that happened to you over the last three years. What were the first signs of illness that you had?

Patient: I noticed some swelling in the left side of my neck.

Dr. Hook: Tell us a little about the radiotherapy. Has that created problems for you?

Patient: The only real problem I had was some nausea when my stomach area was irradiated. I was surprised that the radiation bothered me so little.

Dr. Hook: Another problem was the skin rash—the herpes zoster. Tell us about that.

Patient: It was on my right side. It took a while for the rash to resolve, but it really didn't bother me very much.

Dr. Hook: For the last year you have been going to school; things have been going well. What brought you to the hospital now?

Patient: I was having problems with shortness of breath when I rode my bicycle. The doctors found a shadow on my lung, so I have come in for a lung biopsy.

Dr. Hook: You look good now. How do you feel?

Patient: I feel excellent, I really do.

Dr. Hook: Thank you for coming to our conference.

I thought it was important that she talk to us today to emphasize how well she looks and how healthy she appears to be. Are there any questions that anyone would want to raise at this time?

Dr. Merle Sande: Are the results of the special stains on the lung biopsy completed?

Dr. Bettinger: The acid-fast and silver methenamine stains were negative.

Dr. Hook: We asked Dr. Charles Hess to discuss this patient and to bring us up to date on Hodgkin's disease, focusing on the questions of histologic type in relationship to staging, prognosis, and therapy.

Discussion

Dr. Hess: In spite of the generally accepted view that Hodgkin's disease is a neoplastic disorder it is still appropriate to question this traditional concept. The histology of this disease closely resembles certain mycobacterial and fungal disorders, as well as certain benign non-neoplastic granulomatous processes such as sarcoidosis which may behave in a malignant fashion. The confusion of Hodgkin's disease with certain infections, granulomatous diseases, and other neoplastic diseases is emphasized by reviewing the original report of this disease by Thomas Hodgkin in 1832.[1] His description was based on the gross anatomic findings in seven cases without the aid of a microscope. Only three of these original cases are now thought to meet the histologic criteria for Hodgkin's disease. The four other cases are thought to represent cases of leukemia, lymphocytic lymphoma, syphilis, and tuberculosis. Leukemia and lymphocytic lymphoma had not been described as separate entities at the time of Dr. Hodgkin's original paper. The similarity of Hodgkin's disease to certain infectious diseases, particularly tuberculosis or disseminated fungal diseases is further emphasized by the clinical course which is char-

acterized by fever, weight loss, generalized pruritus, and night sweats.

Histologic examination of a lymph node from a typical case of Hodgkin's disease(Figure 1A) shows an intensive pleomorphic reaction which resembles granulomatous and inflammatory diseases. This pleomorphic reaction is characterized by large bands of fibrosis, lymphocytes, plasma cells, and granulocytes which infiltrate and destroy the architecture of the lymph node.

Also seen in lacunae (Figure 1A & B) are large binucleate cells which are thought to be the malignant cells in Hodgkin's disease. These giant cells were first described in a patient with Hodgkin's disease by Langhans in 1872[2] and Greenfield in 1878.[3] In 1898 Dr. Carl Sternberg[4] and later in 1902 Dr. Dorothy Reed[5] published the first detailed description of this cell and, it bears their names as the Reed-Sternberg cell. This cell is classically a binucleate cell with each nucleus containing a large central nucleolus. The cytology of this cell is best appreciated from a touch preparation of a lymph node stained with Wright's stain (Fig. 1B). Most hematologists and hematopathologists feel that one must demonstrate this cell in pathologic specimens to make a diagnosis of Hodgkin's disease. Morphologically the Reed-Sternberg cell closely resembles a reticulum cell, histiocyte, or monocyte. However, several recent studies indicate that the cell may be derived from lymphocytes, specifically B lymphocytes.[6] Again, from a morphologic standpoint, the cell in no way resembles those lymphocytes seen in other lymphocytic malignancies.

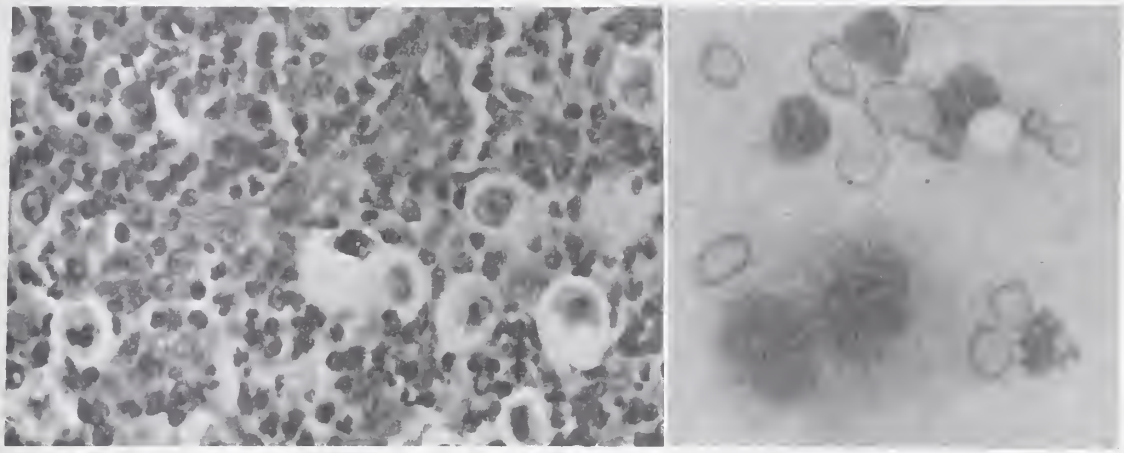

Fig. 1. (A) Lymph node section showing nodular sclerosing Hodgkin's disease. Hematoxylin and eosin stain, magnification x 500. (B) Lymph node touch preparation showing a large abnormal binucleate histiocyte (Reed-Sternberg Cell). Wright's stain, magnification x 1000.

An appreciation and perspective of Hodgkin's disease as a neoplastic disorder can be gained by examining its relationship to the other lymphomas and leukemias (Table 1). Leukemia as defined in this classification is diffuse involvement of the marrow by the neoplastic cell. Lymphoma is a disease which usually originates in the lymph nodes and if spread to the marrow occurs, the pattern is spotty or focal. Both leukemias and lymphomas are caused by the neoplastic proliferation of a single specific cell type which may be lymphocytes, stem cells, or histiocytes. There are three morphologic types of lymphocytic lymphomas and each has a leukemic counterpart. There are also three general types of histiocytic lymphoma and Hodgkin's disease is included in this group with the Reed-Sternberg cell being classified as a type of neoplastic

histiocyte. Hodgkin's disease has no leukemic counterpart. Stem cell or undifferentiated lymphomas or leukemias are classified as separate entities from lymphocytic and histiocytic malignancies.

Hodgkin's disease can be subdivided into four different histiologic types which have important prognostic significance. The four types are classified according to the cellular infiltrate which accompanies the Reed-Sternberg cell (Table 2). In lymphocyte predominance Hodgkin's disease the lymphocyte is the major cell accompanying the Reed-Sternberg cell. In nodular sclerosing Hodgkin's disease there is a pattern characterized by bands of fibrous tissue accompanying the Reed-Sternberg cell (Fig. 1A). Mixed cellularity Hodgkin's disease is characterized by a pleomorphic infiltrate of neutrophils, eosinophils, plasma cells and lymphocytes. Finally, lymphocyte depletion Hodgkin's disease is characterized by an abundance of Reed-Sternberg cells accompanied by minimal fibrosis and varying numbers of neoplastic appearing mononuclear histiocytes with only a few lymphocytes or other cell types present.

Of the four different histologic types, lymphocyte predominance, which represents 8-10% of the total number of cases of Hodgkin's disease, has the best prognosis. It is usually seen in males. Nodular sclerosing Hodgkin's disease also has a very good prognosis and accounts for 40-70% of the total number of cases. Nodular sclerosis is seen more often

TABLE 1

Relationship of Lymphomas and Leukemias of Lymphoreticular Origin

		Malignant Lymphoma (Nodular* or Diffuse Pattern in Lymph Node)	Cytology of Malignant Cell	Leukemia (Diffuse Involvement of Bone Marrow)
Reticulum Cell Sarcoma+	Lymphosarcoma+	1. W.D. Lymphocytic Lymphoma 2. P.D. Lymphocytic Lymphoma 3. Lymphoblastic Lymphoma	1. W.D. Lymphocyte 2. P.D. Lymphocyte 3. Lymphoblast	1. Chronic Lymphocytic Leukemia 2. Chronic Lymphosarcoma Cell Leukemia 3. Acute Lymphoblastic Leukemia
		Stem Cell Lymphoma (Burkitt's Lymphoma)	Stem Cell	Stem Cell Leukemia
		1. Histiocytic Lymphoma 2. Histiocytic Medullary Reticulosis 3. Hodgkin's Disease	1. Histiocyte** (Non-phagocytic) 2. Histiocyte** (Phagocytic) 3. Histiocyte** (Reed-Sternberg)	1. Histiocytic Leukemia (Schilling's Monocytic Leukemia)

W.D., well differentiated; P.D., poorly differentiated (prolymphocytic)
* Giant Follicular Lymphoma (any cytologic type with marked nodular formation in the lymph node)
**Reticulum Cell, RE Cell
+The term lymphosarcoma is a term previously used to include all lymphocytic lymphomas. Reticulum cell sarcoma is a term formerly used to denote all cases of histiocytic lymphoma, but some cases of lymphoblastic and stem cell lymphoma, histiocytic medullary reticulosis, and Hodgkin's sarcoma were often included under this diagnosis.

TABLE 2

Histologic Types of Hodgkin's Disease

1. Lymphocyte Predominance
2. Nodular Sclerosis
3. Mixed Cellularity
4. Lymphocyte Depletion

in young females. Mixed cellularity Hodgkin's disease has an intermediate prognosis with most cases being more advanced than lymphocyte predominance or nodular sclerosing Hodgkin's disease at the time of diagnosis. Mixed cellularity accounts for 20-30% of the total number of cases, and it is seen more often in males. Lymphocyte depletion Hodgkin's disease carries the worst prognosis of all the histologic types and patients with this subtype often have extensive disease with visceral involvement (Stage IV) at the time of presentation. This type represents only 5-7% of the total number of cases of Hodgkin's disease.

After the diagnosis of Hodgkin's disease has been established, the extent of the disease must be determined so that proper therapy may be selected. This process of determining the extent of the disease is known as "staging" and usually requires two to four weeks of hospitalization which often culminates in laparotomy with splenectomy and multiple intraoperative liver and lymph node biopsies.

The currently accepted staging classification was proposed at the Ann Arbor, Michigan, Conference on Staging of Hodgkin's Disease in 1971 (Table 3).[7] In this system the patient first is given a clinical stage based on the findings obtained by a thorough history, physical examination, radiologic studies and laboratory tests of blood and urine. From the history, it is possible to determine the absence ("A") or presence ("B") of certain symptoms. The "B" symptoms include fever of unexplained origin, unexplained weight loss of more than 10% of the body weight over the previous six months, and night sweats. If these symptoms are present, the prognosis is worse for any stage of the disease. Pruritus is no longer included as a "B" symptom.

TABLE 3

STAGING CLASSIFICATION OF HODGKIN'S DISEASE

Stage I: Involvement of a single lymph node region (I) or of a single extralymphatic organ or site (I_E).

Stage II: Involvement of two or more lymph node regions on the same side of the diaphragm (II) or localized involvement of an extralymphatic organ or site in continuity with 1 or more lymph node regions on the same side of the diaphragm (II_E).

Stage III: Involvement of lymph node regions on both sides of the diaphragm (III) which may also be accompanied by localized involvement of the spleen (III_S), contiguous extralymphatic site (III_E), or both (III_{SE}).

Stage IV: Diffuse or disseminated involvement of 1 or more extralymphatic organs or tissues with or without associated lymph node enlargement.

Symptoms A or B

A—Without symptoms

B—General symptoms either: (1) unexplained weight loss of more than 10% of body weight in 6 months prior to admission, (2) unexplained fever with temperature above 38°C., or (3) night sweats.

Clinical Staging (CS)

Staging based on history, physical examination and all laboratory studies performed before laparotomy.

Pathological Staging (PS)

Involvement found at laparotomy or by further removal of tissue for histological examination other than that taken for the original diagnosis.

Other Abbreviations to Denote Extranodal Disease

N+ or N—	For other lymph node positive or negative by biopsy
H+ or H—	For liver positive or negative by liver biopsy
S+ or S—	For spleen positive or negative following splenectomy
L+ or L—	For lung positive or negative by biopsy
M+ or M—	For marrow positive or negative by biopsy or smear
P+ or P—	For pleura positive or negative by biopsy or cytological examination
O+ or O—	For osseous involvement or negative by biopsy
D+ or D—	For skin involvement or negative by biopsy

The guiding principle in staging is that once extranodal disease, which is non-contiguous with the lymph nodes, is demonstrated the staging procedure is complete and the patient is given a stage IV classification. Among the radiographic procedures, the chest film is im-

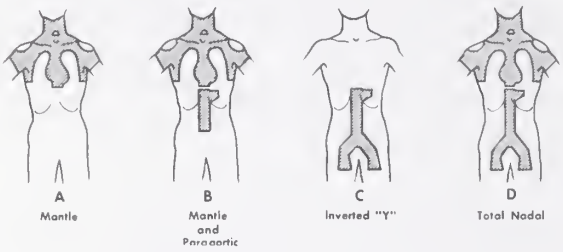

Fig. 2. Diagram of the mantle, para-aortic, inverted "Y" and total nodal fields employed in radiotherapy of Hodgkin's disease.

portant in determining the existence of mediastinal lymph node disease and the presence of parenchymal lung or pleural involvement. The presence of a pleural effusion does not necessarily indicate tumor involvement of the pleura. An effusion may occur as a result of thoracic duct obstruction by expansive mediastinal lymph nodes and does not indicate stage IV disease. Mediastinal laminography may be necessary, but it is not done routinely. Suspected parenchymal or pleural involvement requires biopsy for confirmation.

Bone marrow biopsy and aspiration should be performed early in staging. If Reed-Sternberg cells are demonstrated in the marrow, the staging is terminated and the patient is given a stage IV classification. However, the needle biopsy of the bone marrow is positive in less than 10% of the cases at the time of staging.

The lymphangiogram is the most important procedure for suggesting the presence or absence of abdominal lymph node disease and is very helpful in guiding the surgeon to nodes that should be biopsied at laparotomy.

Bone surveys and scans can suggest the possibility of bone involvement, but again biopsy is required to document involvement with Hodgkin's disease. Intravenous pyelograms are useful in ruling out ureteral obstruction from retroperitoneal lymph node enlargement.

Inferior vena cavagrams are no longer needed, since the lymphangiogram has such a high degree of sensitivity. Barium contrast studies of the gastrointestinal tract are rarely indicated for staging purposes.

Most of the other laboratory tests are nonspecific. Liver function studies may be suggestive of liver involvement but generally do not correlate well with results of liver biopsies taken at laparotomy. Patients with abnormal liver function tests may have negative liver biopsies, and patients with normal liver function tests may have liver involvement. Elevations of erythrocyte sedimentation rate and leukocyte alkaline phosphatase are useful in determining the activity of disease following therapy.

For most patients the clinical staging (CS) will not be sufficient to permit selection of the proper form of therapy and these patients will require laparotomy for final staging (pathologic staging). Only patients with clinical stage I-A disease in the right side of the neck and with stage IV disease need not have laparotomy. At laparotomy the patient should have splenectomy, and multiple needle and wedge biopsies of the liver. Guided by lymphangiography, biopsy of the abnormal para-aortic and pelvic lymph nodes should be performed along with biopsy in other lymph node areas not visualized by lymphangiography including celiac, splenic hilar, hepatic portal and peripheral mesenteric lymph nodes.

The patient presented for discussion illustrates the staging process. Originally she presented with left cervical and supraclavicular lymph node enlargement without any symptoms. Clinical staging showed mediastinal enlargement without evidence of disease on bone marrow biopsy, inferior vena cavagram or lymphangiogram; at this point the clinical stage was II-A. Since the patient had less than stage IV disease on clinical staging, laparotomy was performed which showed that the spleen, liver, and para-aortic lymph nodes were free of disease. Thus, the final pathologic

stage was stage II-$A_{S-H-N-M-}$ (Table 3). This final stage illustrates the use of accepted abbreviations for biopsied extranodal sites. If this patient's spleen had shown involvement with Hodgkin's disease, the final pathologic stage would have been III-$A_{S+H-N-M-}$. It should be noted that Waldeyer's Ring, the spleen, and the lymph nodes comprise the lymphatic system for staging purposes.

A note of clarification is needed for the letter "E" designation. Until recently any involvement of areas beyond the lymph nodes and spleen was considered stage IV disease. If spread to another organ is contiguous from an area of lymph node involvement and there are no other extranodal sites the designation "E" is used to indicate contiguous extranodal involvement. For example, a patient having positive nodes in the neck and mediastinum and contiguous involvement in one lobe of the lung, is designated as stage II_E. Patients having non-contiguous extranodal involvement or more than one area of contiguous extranodal involvement are classed as stage IV.

As a result of this extensive pre-treatment evaluation, particularly laparotomy and splenectomy, much has been learned about the natural history of Hodgkin's disease. About 25% of patients will have disease in the spleen at laparotomy even though the lymphangiogram is normal and splenomegaly is not present on physical examination.[8] Results of liver biopsies obtained at laparotomy have revealed that percutaneous liver biopsy is of little value as a staging procedure, with as many as 10% being falsely negative.[9] The lymphangiogram, however, has been very helpful, not only in staging, but also in mapping the fields for radiotherapy and in following the patient after treatment. The dye not infrequently will remain in the lymph nodes for many months or even years. The frequency of false negative and positive lymphangiograms is continuing to decrease with increasing experience. However, these procedures will need to be continuously re-evaluated. As more information becomes available laparotomy may be omitted in staging some patients. For example, laparotomy for clinical stage I-A disease in the right side of the neck is no longer recommended. However, if the patient has clinical stage I-A disease in the left side of the neck, laparotomy is still advised because of the frequent problem of "mediastinal skip" with spread of the disease directly to the abdomen without involvement of mediastinal nodes.[8,9]

The choice of initial therapy depends almost entirely on the final pathological staging. For stage I and II disease above the diaphragm, radiotherapy alone is the treatment of choice, and 4,000 rads are given in the classical "mantle" distribution (Fig. 3A). If the mediastinal nodes are involved the patient is also given 3,500 rads to a para-aortic field (Fig. 3B). For stages I-E and II-E, the extranodal area involved is also included in the field of radiation. For stage I and II disease below the diaphragm 4,000 rads are given in the "inverted-Y" distribution (Fig. 3E). For stage I-E and II-E disease below the diaphragm the extranodal area involved is also included in the field of radiation. It should be noted that the area of the splenic hilum is part of the "inverted-Y" field. For stage III disease total nodal radiation is given, and for stage III-E disease the extranodal area involved is included in the radiation fields. If patients with stage III disease have "B" symptoms (stage III-B), chemotherapy is added to the total nodal radiation. Usually total nodal radiation is employed first followed by six courses of MOPP chemotherapy as will be discussed subsequently. For stage IV disease, MOPP chemotherapy alone is generally employed although local radiotherapy may be used to palliate or achieve complete remission in patients with large tumor masses, particularly intraosseous lesions.

A great many patients with Hodgkin's disease have been cured with the use of radiation therapy. Cure in Hodgkin's disease was defined by Easson, who showed that if a patient is living and free of disease 10 years after initial therapy, his life expectancy is normal (Fig. 3).[10] One should not interpret this definition of cure to mean that patients do not die from Hodgkin's disease after remaining

clinically free of disease for more than 10 years. Recently, a study of patients surviving more than 10 years from the time of diagnosis showed that Hodgkin's disease was ultimately a significant factor contributing to the death of a majority of these patients.[11] Also, a number of patients in this study dying from other causes had microscopic evidence of Hodgkin's disease at autopsy after a disease free interval of more than 10 years. Whether this latter group of patients would have ultimately developed clinical Hodgkin's disease is unknown.

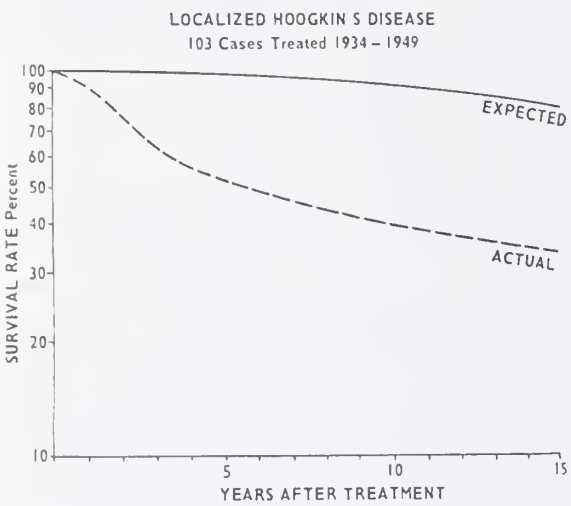

Fig. 3. Survival in localized Hodgkin's disease (Reprinted by permission of the author and the Editor of *Cancer Research*, from the paper by Easson, 1966).

The improved survival in patients staged with the use of laparotomy and treated with modern megavoltage radiotherapy is best exemplified by the five-year survival for stage I and II disease which is about 90% and for stage III disease which is now about 70% (Fig. 4).[12] In patients with stage I disease the survival remains at 85% after eight years.

The chemotherapeutic regimen recommended as first choice is the combination often referred to as MOPP (mustard, oncovin, procarbazine, prednisone) (Table 4). Six courses are usually given at monthly intervals as induction therapy. If a complete remission is obtained most patients are maintained on this regimen at two to three month intervals for a period of two years. If the patient remains in complete remission at the end of two years, all therapy is usually discontinued. Whether two years of maintenance therapy is necessary is still not resolved. A recent evaluation of maintenance versus no maintenance in 57 patients obtaining a complete remission after six courses of MOPP therapy, showed no difference in the five-year survival between the two groups.[13] More data will have to be obtained before the value of maintenance can be fully determined. At the present time we are giving maintenance for a minimum of two years if a complete remission is obtained with induction therapy.

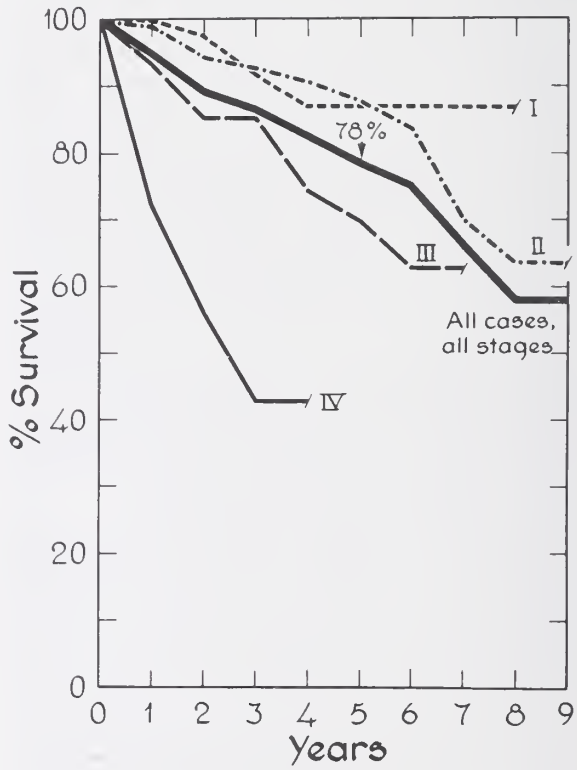

Fig. 4. Actuarial survival versus Stanford (1970) clinical stage in 483 previously untreated patients with Hodgkin's disease staged with the aid of lymphangiography, bone marrow biopsy, and (usually) laparotomy with splenectomy and treated (principally with intensive megavoltage radiotherapy) at Stanford University Medical Center from 1961 through 1970. Curves are for individual stages and for all cases, and all stages. (Reprinted by permission of the author and Harvard University Press, Cambridge, Mass., from *Hodgkin's Disease* by Henry S. Kaplan.)

The best results to date with MOPP chemotherapy in patients having stage III or IV disease, either as the initial therapeutic regimen

or after failure from radiotherapy, are those reported by DeVita et al.[14] With the conventional six courses of MOPP therapy, 80% of 43 patients obtained a complete remission. Forty-one per cent of those patients who obtained a complete remission remained continuously free of disease for at least six years with no further treatment.

Dr. Hook: In regard to the "E" classification in staging, it seems that at times it would be difficult to be certain that a parenchymal lesion is a direct extension of the disease from the adjacent lymph node.

Dr. Hess: That is true. No one really knows that the mode of spread in Hodgkin's disease is always contiguous.

TABLE 4

MOPP Therapy for Hodgkin's Disease

Day	1	2	3	8	10	29
1. HN_2 (Mustargen)	6mg/M² IV			6 mg/M² IV	Begin 2nd Course	
2. Vincristine (Oncovin)	1.4 mg/M² IV (not over 2mg)			1.4 mg/M² IV		
3. Procarbazine	50 mg p.o.	100 mg p.o.	100 mg/M² p.o. days 3 through 10			
4. Prednisone	40 mg/M²/day p.o. days 1 through 10 (1st and 4th courses only)					

The patient presented today initially had stage II-A or possibly II-A_E disease based on involvement of nodes in the neck and mediastinum and possible pulmonary involvement on the right side. A biopsy of the lesion in the right lung was not performed. Initial therapy included 4,000 rads to the classic mantle field, 2,000 rads to the right lung, and 3,500 rads to the para-aortic field. Nineteen months later disease recurred in the left axilla and the patient received another 4,000 rads locally to that area. The area of the lung now demonstrating an infiltrate was included in that field of radiation. Some overlap occurred between the original mantle field of radiation and the local area of radiation in the left axilla with the apex of the left upper lobe and possibly the lingula of the left lower lobe receiving as much as 8,000 rads. Thus, the chance of radiation pneumonitis causing the infiltrate in this patient is very good. It should not be assumed that an infiltrate in the lung is the result of radiation without a lung biopsy to rule out infection or recurrence of Hodgkin's disease. This patient had a closed needle biopsy which showed inflammation and fibrosis, a finding compatible with radiation pneumonitis although not excluding recurrent Hodgkin's disease. She should still be followed closely, and if the lesion progresses an open biopsy should be performed.

Dr. Munsey Wheby: Dr. Hess, would you comment on some of the other conditions which present with lymphadenopathy?

Dr. Hess: We have had patients who presented with symptoms and signs consistent with Hodgkin's disease who on lymph node biopsy and further evaluation were found to have sarcoidosis, toxoplasmosis, cytomegalovirus infection, or infectious mononucleosis.

Dr. Gerald Mandell: Is the role of splenectomy mainly for staging purposes or is there evidence that this is also therapeutic? We know that splenectomy is not completely benign from the reports of post-splenectomy patients who developed disseminated pneumococcal infection.

Dr. Hess: At the present time we feel splenectomy is important in staging because 25% of patients that have a "normal" spleen by physical examination and scan have disease in the spleen at laparotomy. There is a certain risk with infection in splenectomized patients, but it is probably very low.

Dr. Hook: Dr. Weary, when we see patients in the hospital with herpes zoster it is very often associated with an underlying disease such as Hodgkin's disease. When patients present to a dermatologist with herpes zoster, what is the experience with underlying disease?

Dr. Peyton Weary: Most of the patients

that we see with herpes zoster do not have an underlying lymphoma. We are constantly aware of the association of these diseases, particularly when we see a severe gangrenous type of herpes zoster in which there may be deep scarring. The chances of an underlying lymphoma are greater in patients who develop herpes zoster with disseminated lesions outside of the nerve distribution.

Dr. William Hunt: I understand that lymphangiography may have false negative and false positive results when compared to findings at laparotomy. Should we continue to use lymphangiography in staging or should all patients have exploration?

Dr. Hess: The interpretation of lymphangiograms continues to improve. Presently we do laparotomy on most of our patients whether they have a positive or negative lymphangiogram. Other centers also are doing both procedures so that eventually the relative merits of the two studies can be assessed. So far, correlations show that about 90% or more of the abnormal lymphangiograms are confirmed by biopsy.[15,16,17] Furthermore, a negative lymphangiogram does not exclude the presence of disease in the abdomen because the celiac, splenic hilar, hepatic portal, and mesenteric lymph nodes are not visualized by lymphangiography.

Dr. Hook: Dr. Hess emphasized the relatively good prognosis many of the patients with Hodgkin's disease have at this time with the newer concepts of staging and treatment. Dr. Leavell, would you comment on how these concepts have changed prognosis?

Dr. Byrd S. Leavell: I think the outlook now is certainly better for most people with Hodgkin's disease than it was with the older forms of therapy which varied among periodic observation alone, local excision, and the use of local radiation. Based on the current concept that Hodgkin's disease spreads by continuity, the radiation fields have been extended for initial therapy. The outlook is better for all types. Nevertheless, one does see a few patients each year that don't respond as expected to present day staging and treatment. Their resistance to disease is different and we don't understand this yet.

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(*Continued on Page* 572)

Surgical Grand Rounds . . . .

Edited by Gerald T. Golden, M.D.

Acute Variceal Bleeding in Patients with Alcoholic Cirrhosis

JAMES G. CHANDLER, M.D.

Alcoholic cirrhosis, a malignant disease of enormous social and economic importance, is the ninth leading cause of death among people of all ages in this country, and the fourth leading cause of death in those over 40 years of age. The five-year survival for well-managed patients varies from 40 to 65 percent, which is comparable to the survival figures usually quoted for most malignant neoplasms. The systemic wasting that attends advanced cirrhosis also parallels neoplastic disease. Unlike cancer, however, which kills subtly by debility and intercurrent infection, overt bleeding from esophageal varices is the commonest cause of death in cirrhosis, accounting for one-quarter to one-third of all deaths. Therefore, even though the basic problem is alcoholism, and secondarily cirrhosis, the treatment of variceal bleeding has become the central focus of therapeutic effort for those patients in whom the total disease complex already is established.

Variceal hemorrhage is a particularly dangerous form of bleeding in the setting of alcoholism and liver disease. The heart frequently is stressed in advance by the hyperdynamic state, and reduced liver blood flow is the basis of portal hypertension, so both the myocardium and the liver are abnormally vulnerable to hypovolemia and undercirculation. Because much of the blood from the bleeding varices goes down the gastrointestinal tract, the gut delivers a large ammonia load which must be handled at a time when liver function is deteriorating. Bleeding into the lumen of the esophagus also imposes the hazard of pulmonary aspiration, especially if the hemorrhage is complicated by acute alcoholism or hepatic coma. As always, the trade of the patient's fresh blood for bank blood is a poor one, but the cirrhotic is in additional jeopardy because his ability to compensate for the deficiencies in bank blood is limited. Finally, the therapeutic measures used to treat bleeding varices add very significant hazards of their own.

It is not surprising, then, that the mortality rate from the initial bleeding episode is very high. The eight reports summarized in Table 1 encompass more than 1,000 patients, and indicate that the first hospitalization for variceal hemorrhage will be the final hospitalization for approximately three out of every four bleeding cirrhotics. Since the mortality of the

TABLE 1

Mortality of First Varix Hemorrhage in Cirrhosis

Authors	*Year Reported*	*Type of Hospital*	*Cases*	*Mortality %*
Ratnoff and Patek	1942	5 pvt.-Teaching	106	40
Higgins	1947	City Indigent	45	76
Atik and Simeone	1954	City Indigent	59	83
Nacklas et al	1955	City Indigent	102	59
Cohn and Blaisdell	1958	City Indigent	456	74
Taylor and Jontz	1959	Veterans	102	45
Merigan et al	1960	City Indigent	74	76
Orloff	1962	City Indigent	87	84
		Total	1031	Mean 73

From the Department of Surgery, University of Virginia, Charlottesville. Presented February 2, 1974.

first hemorrhage is so high it would seem reasonable to conclude that patients with proven esophageal varices should be decompressed before they bleed, but the results of three, independent, prospective studies (Fig. 1) argue strongly against that conclusion.[3,5,11] The combination of the mortality of the operative procedure, and the problems that follow portal bypass of the liver, appear to completely offset the advantage of being protected from varix hemorrhage in patients who have not preselected themselves by bleeding from varices once and then surviving. In fact, overall survival seems to be curtailed by prophylactic portal decompression under these circumstances.

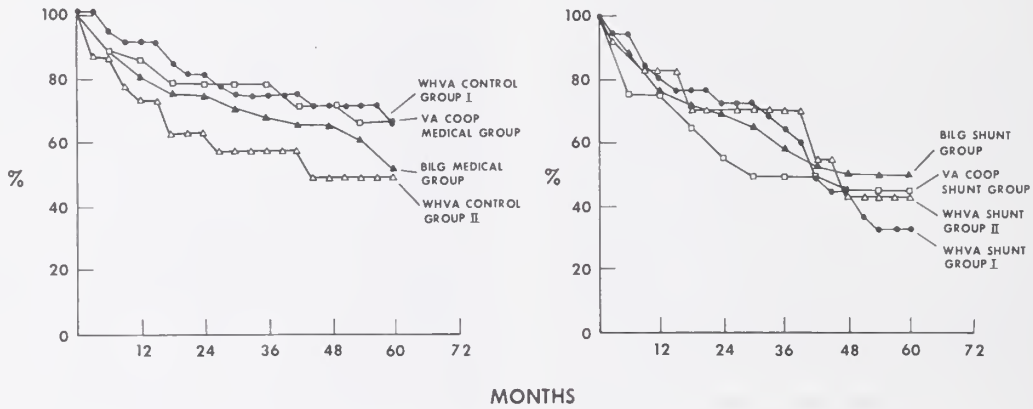

Fig. 1 Survival of shunted and comparable control groups from the West Haven Veterans Administration Hospital, the Veterans Administration Cooperative, and the Boston Inter-hospital Liver Group, prospective studies of prophylactic portacaval shunting.[3,5,11]

In contrast, evidence now exists from two randomized, prospective studies to support the contention that an elective, or "therapeutic" shunt will prolong the lives of patients who have bled from their varices at least once and survived.[4,8] The term "therapeutic" is misleading because these shunts are done really as prophylaxis against subsequent hemorrhage, not as treatment for active bleeding. By definition, this shunt category can only be applied to the 25 percent of patients surviving their initial hemorrhage, and as such, elective shunts have a limited impact on the total problem of death from varix hemorrhage.

The emergency shunt is the real therapeutic shunt, designed to treat actively bleeding varices. It has the potential for benefiting three times the number of patients that might benefit from elective shunt, but the addition of a major operation to the multiple hazards of variceal hemorrhage creates a formidable obstacle to survival. Moreover, some believe that the direct portacaval shunt and the interposition mesocaval shunt which are best suited for emergency portal decompression are prejudicial against long-term survival, and particularly against the quality of survival, when compared to some of the elective shunt alternatives.[1,13]

There are really two basic therapeutic plans to consider in the treatment of patients with bleeding varices (Fig. 2). The more popular path involves three successive hurdles: control of the hemorrhage, restorative preparation to reverse the damage done by bleeding, and then some form of elective portal decompression to avoid future hemorrhage. There are hazards along the way, particularly rebleeding, so that relatively few patients, maybe one in four, make it all the way through. The other path has only one hurdle, but it is a large one, and perhaps only one in two can make it over that barrier. It should be possible to determine which is the better path, but the facts needed to make that determination are not available for several reasons. To begin with, the issue has been confused by comparisons made between patients who have preselected themselves by surviving their initial hemorrhage and patients who have survived or failed

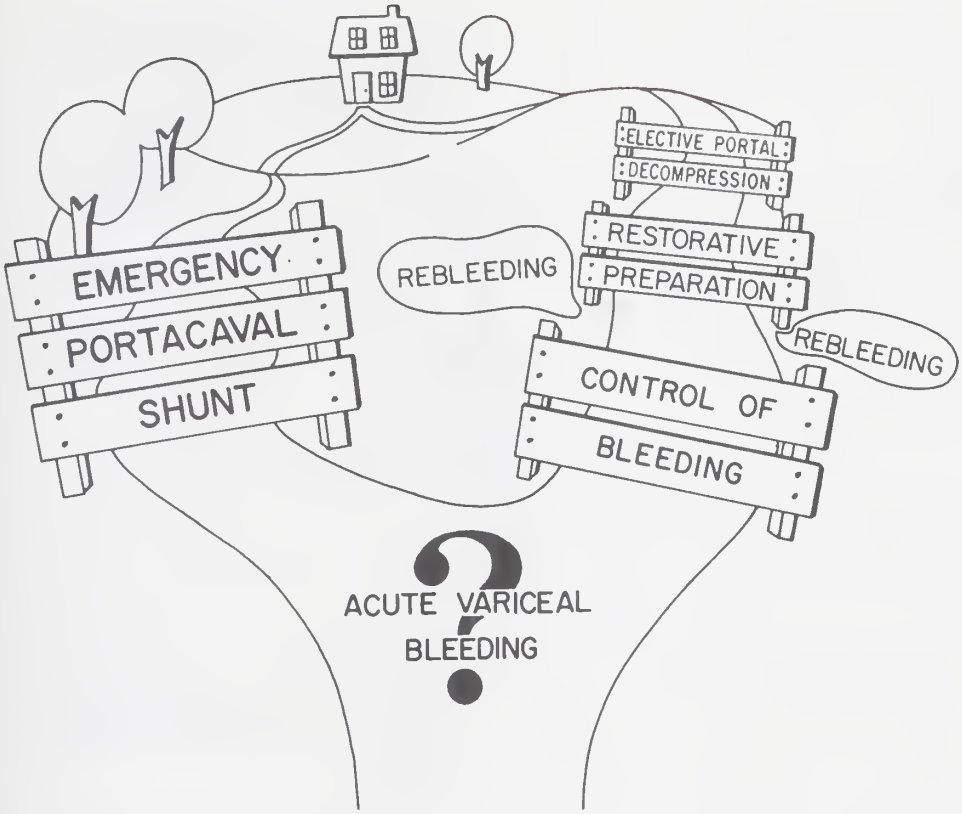

Fig. 2 Therapeutic alternatives in the treatment of acute variceal bleeding: immediate bleeding control, a period of restorative preparation, and then an elective shunt; or emergency portacaval shunt.

to survive an emergency portacaval shunt. These groups really are not comparable. Secondly, surgeons are inherently uncomfortable with any procedure that has a 50 percent or greater mortality, even if alternate methods of treatment yield less survivors, and often are reluctant to consider an emergency shunt under any circumstances. Thirdly, because many patients are managed over the first two hurdles by one group of physicians, and then operated on by another group, neither has an accurate concept of the proportion of starting patients who eventually survive the entire course. Finally, until recently general clinical policy dictated that a cirrhotic patient was bleeding from esophageal varices if he had varices and did not have a demonstrable peptic ulcer—a diagnosis by exclusion. The development of fiberoptic esophagogastroscopy now provides a much better definition of the problem of bleeding varices, and it is clear that cirrhotics often bleed from acute gastritis, and even massive hemorrhage does not indicate that it necessarily is of variceal origin.

The ideal study with randomized input, well-defined varix bleeding, equally enthusiastic and prompt management along the two alternate paths, and critical long-term assessment has not been done. However, there are considerable data available bearing on the various methods of controlling acutely bleeding varices which permit comparison on the basis of short-term results, recognizing that most of the survivors will still have two more hurdles to surmount.

Figure 3 is a composite representation of the methods that have been used to control bleeding from esophageal varices. The fact that there are so many alternatives suggests that no single method is sufficiently successful to displace the others. Perhaps the most direct approach is represented by trans-esophageal varix ligation. It was first proposed by Boerema in 1949 and again, independently, by

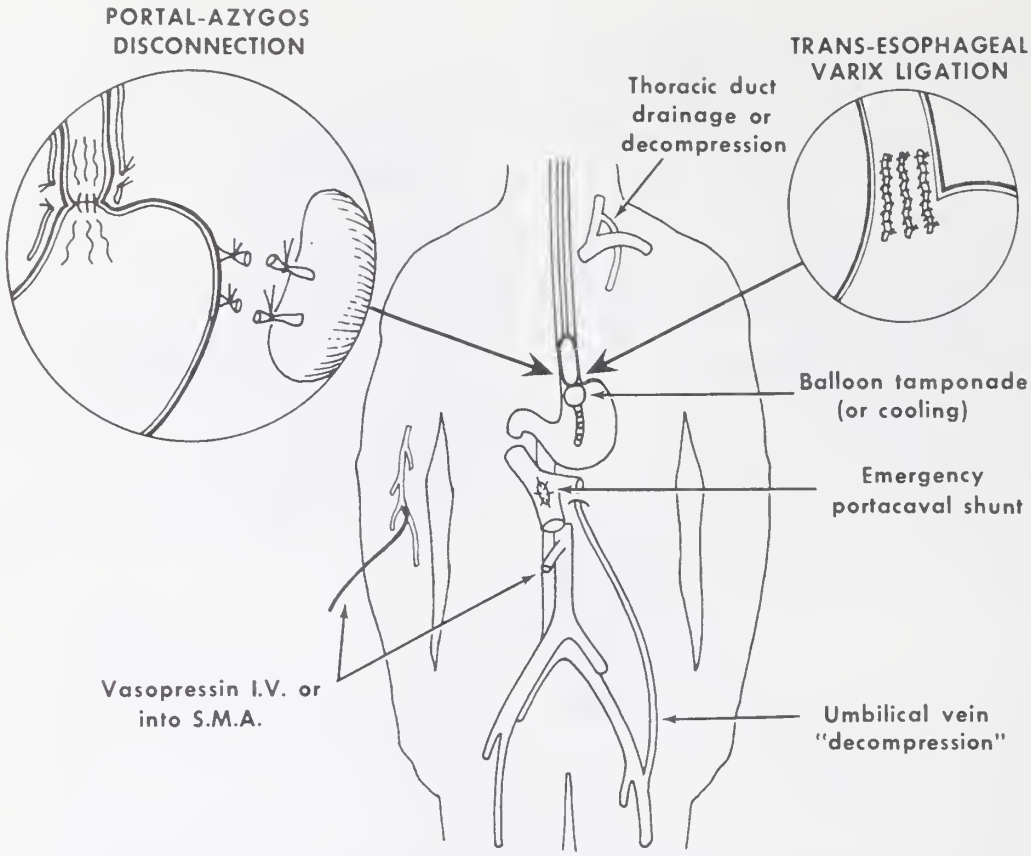

Fig. 3 Methods of controlling bleeding esophageal varices.

Crile a year later. Table 2 presents nearly 20 years of reported experience with this procedure in more than 200 patients. Immediate bleeding control has been excellent and early rebleeding has been infrequent, but this operation has not proven to be definitive treatment because of the high risk of eventual recurrent hemorrhage. Consequently, it must be followed, after an interval of convalescence, by an elective portal-systemic shunt to protect the patient permanently from future varix bleeding. Thus, the overall mortality of 45 percent for trans-esophageal varix ligation must be viewed in the context of the first hurdle alone, with two more yet to go.

TABLE 2

TRANS-ESOPHAGEAL VARIX LIGATION FOR BLEEDING VARICES

Author-Year	*Patients*	*Op. Mortality (%)*
Hamilton—1955	8	75
Linton & Ellis—1956	20	15
Cohn & Mathewson—1957	17	35
Welch—1957	6	50
Ludington—1958	7	86
Crawford et al—1959	6	17
Orloff—1967	28	46
Rothwell-Jackson & Hunt—1971	58	45
Ottinger & Moncure—1974	72	49
Total	222	Mean 45

Balloon tamponade has had a more extensive trial than any other modality in the treatment of actively bleeding varices. Inflating a balloon in the esophagus involves significant hazards related to both obstruction and distention.[2] Aspiration of oral, nasal, and pharyngeal secretions is the most obvious danger, particularly in patients who are obtunded. If the inflated balloon becomes dislodged into the oropharynx, it will totally obstruct the airway, so these patients must have constant attention. Moreover, excessive pressure in the esophagus, or at the gastroesophageal junction, has caused erosions, mucosal lacerations, and even rup-

ture. In spite of these major hazards, balloon tamponade is still a favorite method for achieving immediate control of bleeding varices, and Table 3 documents a composite experience encompassing almost 20 years and the treatment of 368 patients. The overall figure of 75 percent initial control is generally accepted, although rebleeding lowers the ultimate control rate to less than 50 percent. However, balloon tamponade has not been advocated as definitive therapy; rather, it has been used to stop the immediate hemorrhage in the hope that sufficient time would be gained to prepare the patient for a subsequent shunting procedure at a time of election. The 59 percent mortality figure suggests that a realistic ceiling for this goal would be a maximum salvage rate of four out of ten patients. This theoretical maximum will be diminished by a few individuals who will not survive an elective shunt, but the critical question is whether or not a significant number of patients really can be physiologically restored during any period of preparation so that a shunting procedure will be safer for them. This concept has never been studied, but the data suggest that, at best, only 40 to 50 percent of bleeding cirrhotics will survive balloon tamponade, or transesophageal varix ligation, to test the hypothesis.

TABLE 3

Results of Balloon Tamponade in Bleeding Cirrhotic Patients

Author–Year	*Cases*	*Initial Control–%*	*Ultimate Control–%*	*Mortality–%*
Reynolds et al–1952	32	66	50	47
Hamilton–1955	20	45	..	75
Ludington–1958	58	75	43	..
Conn–1958	50	70	..	82
Read et al–1960	38	84	24	74
Orloff–1962	45	55.5	20	82
Hermann & Traul–1970	75	84	41	40
Pitcher–1971	50	92	76	36
	—	—	—	—
Total/Mean	368	75	43	59

The demonstration by Kehne et al in 1956 that posterior pituitary extract could control bleeding from esophageal varices by temporarily lowering portal venous pressure stimulated a great amount of interest because it was simple and was compatible with other methods of treatment. Intravenous pituitrin, or vasopressin, induces selective splanchnic arteriolar constriction, may close down some splanchnic arteriovenous shunts, and depresses cardiac output. All of these actions combine to decrease portal blood flow without increasing hepatic resistance, thereby reducing portal pressure. The initial control of bleeding reported by most authors has been encouraging (Table 4). The pituitrin must be given over a relatively short interval to be effective, usually 20 units over 15 minutes. The pharmacological effects last about two hours, so a relatively high rebleeding rate might well be anticipated. Unfortunately, the drug is tachyphylactic, and repeated doses are less likely to

TABLE 4

Results of I.V. Pituitrin in Bleeding Esophageal Varices

Author–Year	*No. of Trials*	*Initial Success*	*Rebled*	*Mortality*
Schwartz, et al–1959	25	88%	"Frequent"	..
Merigan, et al–1962	12	73%	"Frequent"	93%
Shaldon & Sherlock–1960	8	100%	63%	50%
Orloff–1967	56	88%	86%	..
Conn & Dalessio–1962	25	40%	..	..

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WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development) Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue A decrease in tibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug The anti-anabolic action of tetracyclines may increase BUN While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin

ADVERSE REACTIONS: **Gastrointestinal** (oral and parenteral forms) anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands, no abnormalities of thyroid function studies are known to occur

USUAL DOSAGE: **Adults** — 600 mg daily, divided into two or four equally spaced doses. More severe infections an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours Gonorrhea In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin® (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5 4 grams.

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Children — 3 to 6 mg/lb/day divided into two to four equally spaced doses

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses

In streptococcal infections, a therapeutic dose should be given for at least 10 days

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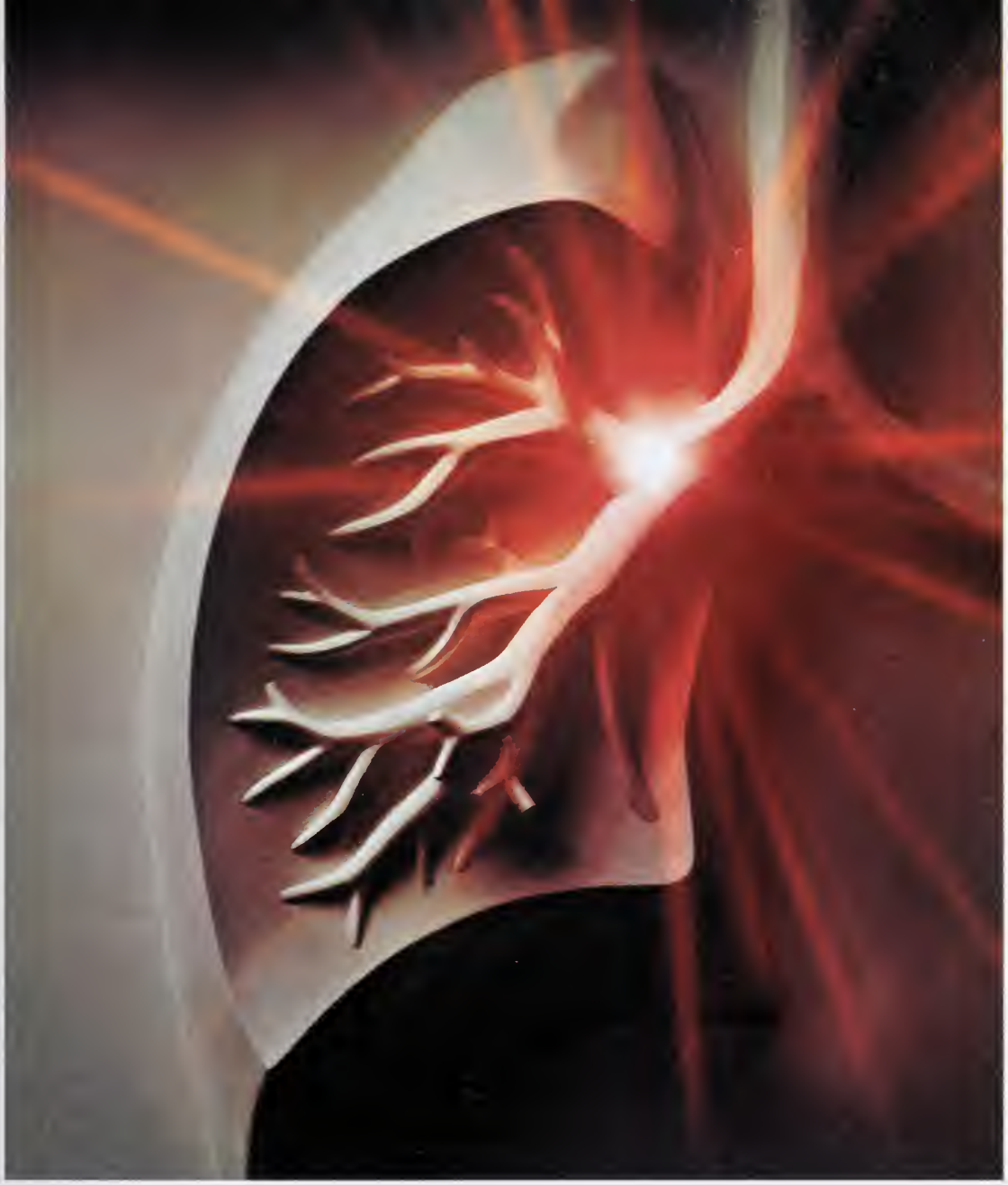

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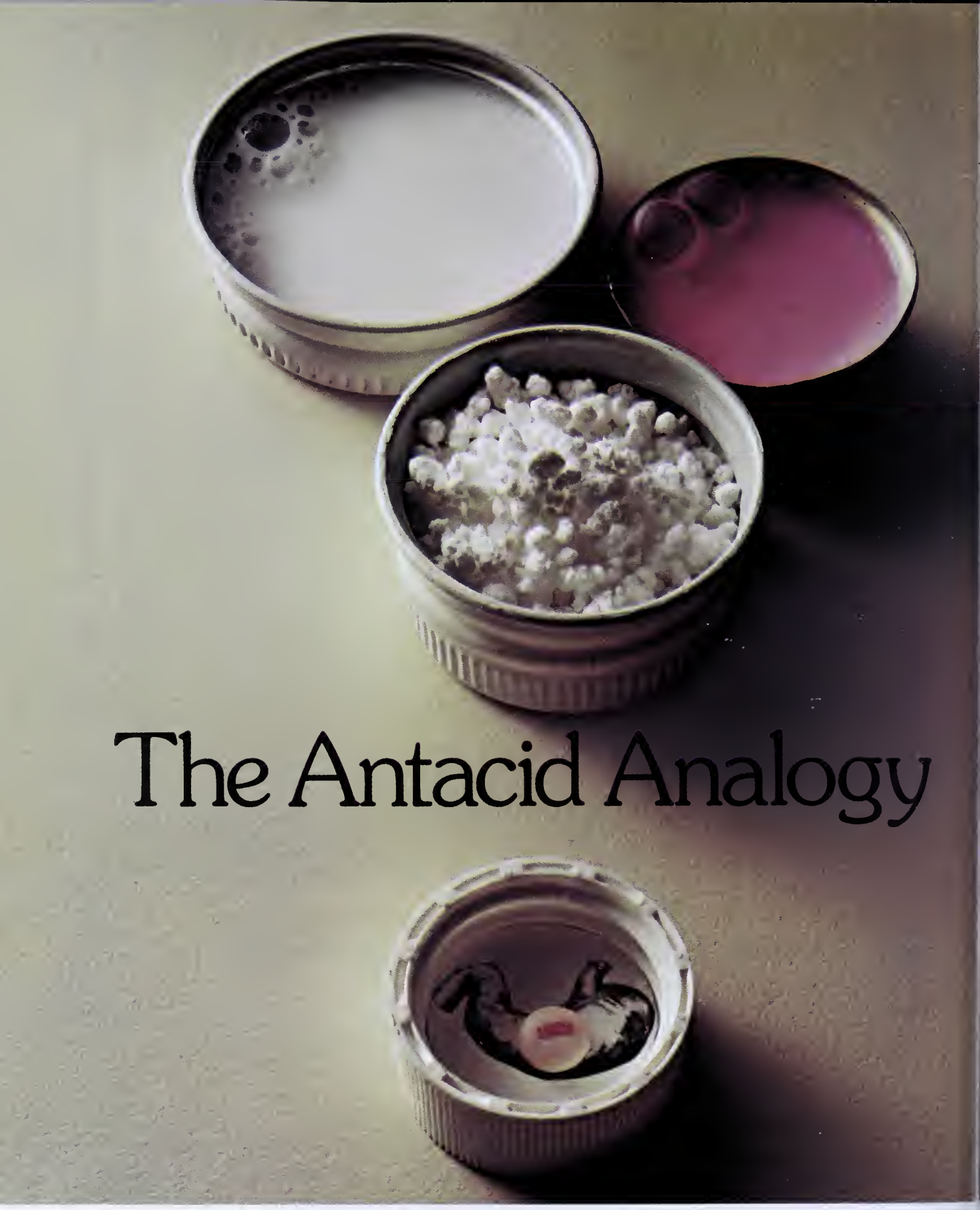

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Fever and possibly heat stroke may occur due to anhidrosis.

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Precautions: Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

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Adverse Reactions: Varying degrees of drying of salivary secretions may

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*Innes, I. R., and Nickerson, M., in Goodman, L. S., and Gilman, A. (editors): The Pharmacological Basis of Therapeutics, ed. 4, New York, The Macmillan Company, 1970, p. 537.

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Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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be as effective. It is difficult to determine an accurate rebleeding rate for the use of vasopressin. In those cases where it failed, some other therapeutic maneuver almost always was introduced, and, even if pitressin stopped the bleeding, many patients still were subjected to more definitive treatment according to a pre-planned protocol. Therefore, there was no real opportunity to demonstrate whether bleeding would or would not recur after vasopressin by itself. For the same reasons, a meaningful figure cannot be derived for the maximum salvage rate that might be expected with the use of pitressin alone.

The next logical step was to try giving vasopressin selectively into the splanchnic arterial circulation. The superior mesenteric artery was chosen because of fear of adding an additional insult to the liver, if hepatic arterial flow were to be reduced by celiac infusion. Actually, indirect evidence suggests that hepatic arterial flow is not compromised by vasopressin, and it may even be enhanced. Selective celiac infusion might provide a more specific approach to esophageal varix decompression but all the accumulated clinical experience has involved superior mesenteric artery infusions (Table 5). This method was developed and popularized by Baum and Nusbaum, whose most recent report attests to the high rate of initial response that can be achieved in their experience with 41 patients.[9] Others have reported technical problems, complications with the procedure, and less success in controlling bleeding (Table 5). On occasion, the selective arterial catheter has been left in place for a prolonged time, undoubtedly reflecting difficulty with continued varix oozing and rebleeding. The hospital mortality rate has been approximately 60 percent, although in some instances deaths are included that accrued from subsequent surgery on the same admission. Nevertheless, the figures are almost identical to the composite mortality reported for balloon tamponade and suggest again that all of these methods of controlling acute variceal hemorrhage have a maximum salvage potential of about 40 to 50 percent.

Closed-circuit, selective, gastric hypothermia has been used by a few groups as another method of achieving temporary control of bleeding varices. The great majority of patients have stopped bleeding with gastric hypothermia, but rebleeding shortly after removal of the cooling balloon has been a common experience. Nothing has been written about selective gastric hypothermia in the treatment of varix hemorrhage in the past eight years, which suggests that this modality offers little more than the others as a means of salvaging bleeding cirrhotics for subsequent elective shunting.

Surgical isolation of the varices by transecting the esophagus and dividing all of the venous collateral channels to destroy continuity between the portal and azygos venous systems has been used for schistosomal portal hypertension but has not had an extensive trial in patients with portal hypertension secondary to cirrhosis. Thoracic duct drainage, or decompression of the thoracic duct-venous junction, has been advocated as a means of lowering portal pressure and stopping varix hemorrhage, but there is no evidence to support the

TABLE 5

S.M.A. Infusion of Vasopressin for Variceal Bleeding
(average dose 0.2 u/min)

Author	*Patients*	*Longest Infusion (days)*	*Initial Control*	*Complications*	*Hospital Mortality*
Nusbaum et al (1974)	41	14	98%	0	61%
Conn et al (1972)	11	4–5	87%	Several	59%
Murry-Lyon et al (1973)	17	24	41%	50+%	65%

theory of a relative obstruction at the thoracic duct-subclavian junction.[12] Moreover, the only controlled clinical trial of thoracic duct drainage in the treatment of acutely bleeding varices showed it to be ineffective.[6]

There appears to be some sustained interest in controlling varix hemorrhage by portal decompression through the re-opened umbilical vein.[7] This route initially was attractive both as a means of temporary control and for long-term portal decompression primarily because it required only a superficial operation, which could be done under local anesthesia. Portal pressure, as measured in the external shunt, was reduced, but it soon became apparent that effective reduction of the true portal pressure, as measured in the portal vein, could be achieved only with a pump in the system. Thus, effective long-term decompression has not proven to be feasible by this route. The literature is insufficient to evaluate the acute treatment of varix hemorrhage using the umbilical vein. The only real series available has not been reported in detail, and includes only 13 patients with, at most, four survivors.

Emergency portacaval shunt stands apart as an alternative to all of these methods of managing the bleeding cirrhotic patient. It will almost always stop varix bleeding immediately, and, at the same time, provides reliable protection from subsequent hemorrhage.[10] Table 6 presents the early results that have been reported for emergency portacaval shunt. The definition of emergency and the selection of patients varied in the different series, but the survival figures are all within range of, or much better than, those that have been reported for methods of managing the acute bleeding episode alone. If significant attrition does not follow survival through the postoperative period, then there appears to be real merit in considering an emergency shunting procedure as the optimal method for treating the acutely bleeding cirrhotic patient. The data of Orloff et al[10] indicate that a few more deaths will occur during the first postoperative year, but that the attrition rate after that will be low. Their original group of 40 patients treated by emergency portacaval shunt has had an actual seven-year survival of 42.5 percent. Considering that only 40 to 50 percent of bleeding cirrhotics treated by varix litigation, balloon tamponade, or intra-arterial pitressin will survive the immediate episode, survival of more than four out of ten patients seven years after emergency shunt strongly suggests that emergency shunt may be the better alternative.

TABLE 6

Early Results of Emergency Portacaval Shunt

Author	*Year*	*Patients*	*Operative Survival—%*
Wantz & Payne	1961	34	59
Mikkelsen	1962	37	65
Ekman & Sandblom	1964	30	83
Weinberger	1965	29	72
Preston & Trippel	1965	25	56
Hoffman et al	1969	20	55
Balasegaram et al	1970	30	70
Megevand	1970	30	70
Edmondson et al	1971	50	52
Orloff	1974	115	48

Evaluation of the quality of survival is more difficult and cannot be derived by a comparison of different methods of managing acutely bleeding varices. This important aspect of portacaval shunt therapy currently is undergoing prospective randomized study.[13] A similar study of the two main alternatives in treating bleeding varices also needs to be done. The critical question of whether more patients can be salvaged by some non-operative method of controlling their acute bleeding, a period of physiological restoration, and then elective portal decompression, or whether the safer choice is an emergency portacaval shunt, cannot be answered definitively in any other way.

Regardless of what overall method of treatment is adopted, certain practical aspects of managing actively bleeding patients with alcoholic liver disease are of paramount importance. First, two large-bore intravenous lines are needed of the type that will not become dislodged as the patient is resuscitated and moved from one bed to another. One of these lines should be in the central venous pool to guide volume replacement. Blood should be drawn for typing and at least four units of

bank blood crossmatched. If the patient is to undergo emergency portacaval shunt, four additional units of fresh blood (less than 24 hours old) also should be requested to avoid an intraoperative bleeding diathesis. The time to ask for fresh-drawn blood is when the patient is first seen because it will take about as long for the blood bank to fulfill this request as it will take to do the necessary diagnostic studies and to have the emergency shunt well underway. Blood samples also need to be sent for CBC, platelet count, prothrombin time, partial thromboplastin time, electrolytes, bilirubin, alkaline phosphatase, transaminases, albumin, blood urea nitrogen, and glucose.

A foley catheter should be put into the bladder to monitor urine output. The largest available nasogastric tube should be placed, and the stomach lavaged with ice water until the returns are clear enough to permit fiberoptic esophagogastroscopy. Intravenous pituitrin also can be given at this time; if it works, it makes the endoscopy easier and saves some blood. Even if varices are identified by direct inspection and no other source of bleeding is found, if the patient is not exsanquinating he should go to x-ray to get a good chest film and an upper gastrointestinal series to confirm the varices and aid in excluding peptic ulcer disease. Someone with a clinical orientation to hemorrhage and shock should remain with the patient during all of the time he is in the x-ray department.

The patient then should go to an intensive care area, where he should be weighed on admission. This step very frequently is omitted, and yet knowledge of the patient's base-line weight provides the only rational basis for evaluating his fluid therapy during the next critical 24 hours. With or without balloon tamponade, the stomach should be lavaged with ice water again to get out as much blood and barium as possible. Then, four grams of neomycin and 60 ml of magnesium sulfate should be instilled into the stomach, and aspiration discontinued for 30 to 45 minutes. A neomycin containing enema should also be given. This program of cartharsis and intestinal antibiotics is more likely to succeed if begun before any evidence of encephalopathy has developed, and then continued at intervals until the lumen of the entire gatsrointestinal tract is reliably free of blood.

By this time some laboratory results should be available. Potassium replacement therapy should be started unless the serum potassium is 4.5 mEg or more. The majority of bleeding cirrhotic patients will be severely potassium-depleted, and have a marked tendency towards metabolic alkalosis. For this reason, and because the hemorrhage itself and either balloon tamponade or an operation all impose on the patient's respiratory reserve, an arterial blood sample should be drawn as soon as the patient is settled in the intensive care area. It also is probable that the prothrombin time will be prolonged and a single does of intravenous synthetic vitamin K can be given without waiting for the laboratory report.

Subsequent management must vary according to the personal experience and bias of the physicians caring for the patient, since there are no reliable data to direct the course from this point. This is true even though 31 years have elapsed since Blakemore and Whipple began systematically to study the effectiveness of portacaval shunt in the treatment of variceal bleeding. It has taken almost 25 years to develop proof that prophylactic portal decompression is not justified in cirrhotics with proven varices which have never bled.[3,5,11] Moreover, conclusive evidence that the protection from subsequent hemorrhage afforded by a portacaval shunt really would prolong the lives of patients who bled once from varices and then survived has just come forth during the past three years.[4,8] These recent studies should have a strong influence on the management of portal hypertension secondary to alcoholic cirrhosis. They clearly indicate that portal decompression cannot be justified until a patient has singled himself out by bleeding once. Then it is clear that, if he is among the fortunate minority who survive the first hemorrhage, he should undergo an elective shunt. The important issue of how best to

manage the much larger number of patients potentially salvageable at the time that they are bleeding remains unsettled, despite the accumulated suggestive evidence favoring emergency portacaval shunt.

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Department of Surgery
University of Virginia
Charlottesville, Virginia 22901

MEDICAL GRAND ROUNDS—

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Mental Health . . . .

Children and Death

MARGIE B. CLARK, M.S.W.
Newport News, Virginia

As a part of a broader interest in helping the dying patient and his family, there has developed a sharp rise in concern for the effect on children of the death of a parent. The way the death of a parent will affect a child will depend largely upon the child's age, the level of emotional development the child has achieved at the time the parent dies, and the availability of a parent surrogate to whom he can transfer the feelings he had for the lost parent.

Studies in the area of normal children's attitudes toward death (Nagy, 1948) have shown that the young child, under the age of five sees the parent's death as desertion. He does not at this point understand death as the adult sees it, that is, as an involuntary leaving and one that is permanent. To young children death seems to be reversible—like a TV show in which the person dies today but is back on the show again tomorrow. Or on seeing a dead bird, the very young child will think the bird is sleeping and that it will later wake and fly again. Dr. Selma Kramer, child psychoanalyst, remarking on the denial of death in our society, stated that this denial has to do with guilt in the adult. She told of a four and a half-year-old child who discussed death in a nursery. He said, matter-of-factly, "you are put in a box and the worms eat you, and that is all there is to it." The children in the nursery could accept this very well, but the parents became very upset.

CLARK, MARGIE B., M.S.W., *Psychiatric Social Worker, Riverside Hospital Community Mental Health Center, Newport News.*

Approved for publication by the Commissioner, Department of Mental Health and Mental Retardation.

The child from ages five to nine recognizes death but thinks of death as a person. For most children, it is only after the age of nine that they achieve a conception of death as a permanent biologic process, according to Nagy.

Children's understanding of death seems to be unrelated to religious orientation, educational experience, or economic background. It seems to depend upon maturation. Piaget found that the child's ability to conceptualize death occurs at about age 10 or 11. Like the adult, the child goes through a period of mourning, characterized by shock or fright, protest, despair and detachment. The younger child reacts to mourning in ways which for the adult are pathological. Pathological reaction to mourning seems to lie in an inability to express verbally urges to recover and scold the lost loved one, with all the yearning for and anger with the deserting person that they entail. For the child this may be viewed as normal since his skills at communicating his feelings are less well developed than in later years.

The child may be feeling deep grief and not express it as adults do. He may communicate his distress through repetitive play in an attempt to master the traumatic event, or use symbolic language showing us he is not yet ready to talk about it.

I knew a five-year-old girl whose father was dying of cancer. He was at home and the child felt something terrible was going to happen though she did not know what. I was trying to help the mother out by looking after the little girl and having her over to play with my children. It soon became evident she could not stay long. Soon she would say "I have to

go home now." It was rather like a school phobia case. She was unable to stay anywhere else for long without feeling compelled to return home because of her fear of what was happening there.

We create a great deal of suffering because of the isolation we impose on children by widespread avoidance. In one study made of leukemic children at Children's Hospital in Los Angeles, the children were not told what they had or that they had a fatal condition. Yet, the study showed conclusively that the children had death anxiety, felt what was happening to them, and interpreted accurately the feelings of those around them even to knowing as they approached death that the parents, nurses, doctors and other hospital personnel withdrew from them emotionally. This is having to face a tremendous event alone.

Looking at the death of a parent, if the child has reached a point in his development where he is in conflict with his environment, he may then feel that as a result of his own aggressiveness his mother has left him and he is being punished. If the child has internalized his conflicts when the death of a parent occurs, he may then identify with the dead parent. I knew a boy in a residential treatment center whose mother committed suicide by jumping off of the Bay Bridge in San Francisco. He was nine when this happened. His fantasies were that she was angry with the children and had taken this way to escape her life with this family, had swum ashore, disappearing from life with them, and making another somewhere else. He planned, on his next visit home, to demonstrate the possibility of this fantasy by jumping off of the bridge himself and swimming ashore. This boy was able to work through his feelings and, with the help of his father, went over in detail emotionally all the circumstances surrounding his mother's death. In this family there was a "family secret", that is, that the father was adopted. The paternal grandmother was quite disturbed and always made the father feel he owed everything to her for having taken him in. She interfered constantly in the family and the father's anger and guilt made it impossible for him to stand up for his wife. The boy had thought he was destined to become disturbed like his grandmother. He thought he had inherited her illness. Through abreaction, talking and insight and his ability to give up the dead mother and establish a better relationship with his father, he was able to go back to school, be less hyperactive, and to take a healthier attitude toward his future.

It is normal for younger children to work through, over and over in play, traumatic events they do not yet have the maturity to cope with.

When a child feels that an event is too overwhelming for him to deal with, he may need to put it off until he is stronger and can come to grips with it then. An example of this was a 14-year-old boy who had seen his mother attack his father with a knife in an attempt to kill him. This was a chaotic family and when I first knew this boy he spent his days in and out of his hallucinations in which two groups were constantly warring with each other. He had given them special names and one was a "good" group and the other "bad". Even after he had achieved a therapeutic relationship on which he could rely, it took him about a year and a half before he could talk about his frightening experiences.

Another very pathological handling of grief is what is called ego split. This defense serves to continue the conflict rather than to relieve it. Avoidance of the deep grief and mourning of the lost one is achieved by denial of the finality of the loss. Thus, while superficially acknowledging the death of the loved one, on a deeper emotional level they deny that an unbearable loss could have taken place and that the wished for reunion will not occur. These two mutually incompatible trends coexist without being mutually confronted (Wolfenstein, 1970). In this case of a family whose 14-year-old daughter died suddenly of a brain tumor, the family both recognized that she had died and been buried, while at the same time feeling that she was still with them. Her death had been a blow to the entire family. If the wind blew the door open, they remarked, "Charnette, when you come in, you

should know to close the door behind you." The father talked about his grandchild who was about to fall off the bed and Charnette's unseen hand kept the child from falling. The 12-year-old brother had not cried at the funeral and had never talked about his feelings regarding Charnette's death. He was referred to the Center for stealing from his mother and one of his female teachers at school. He was restless, could not sit still and felt depressed. He said he had nothing to live for and had almost run in front of a truck the night before to end his life. His behavior had deteriorated since his sister's death. The elder girl in the family had begun truanting from school, running with a rough crowd, and became pregnant. The mother was quite depressed and the father constantly changed jobs.

An example of the devastating effect of death on siblings is shown in one family with twin boys; when one died at the age of five the remaining twin was treated as an outcast. The mother made him understand that she wished he had died instead of his brother as his brother was the favored child. The surviving twin, while intelligent and capable, was crippled as he grew up with a sense of guilt and rejection that made it impossible for him to aggressively pursue his career. Fortunately with counseling, he worked through these feelings and became a successful businessman.

Children and adolescents may go through a normal mourning process or have an immediate pathological reaction, a delayed reaction with psychiatric problems as an adult, or delinquent behavior (Fulton, 1965).

Medical science is finding more and more that the death of a loved person presents a hazard to the survivor's mental health and there is a highly significant correlation between childhood bereavement and later-life emotional illness.

One particular study of a group of 297 inpatients and outpatients was made by Beck and Seth in Philadelphia (1963). This study is impressive in showing the correlation between the incidence of childhood bereavement and the degree of adult depression. There is also a strong correlation between parental loss, for any reason, in childhood and the development of character disturbance and neurotic illness. A retrospective study by Greer in 1964 showed that 60% of the sociopaths seen in an outpatient clinic suffered the absence or death of a parent in childhood.

The severity of the disturbance is dependent on the pre-loss stage of psychological development achieved by the child, the length of separation from the significant person, the manner in which the loss is handled, and the availability of other nurturing persons with whom the child can form substitute attachments. For those who need it, we can do much in the preventive field if we help children work through their loss in a healthy way. Then he does not need to use pathological defenses such as repression of his ambivalent feelings which lead to many forms of emotional disturbance.

The case of Russell, an 11-year-old boy whose mother died in the spring of 1972, illustrates the consequences of the loss of a parent. Russell was seen at the Riverside Mental Health Center six months after his mother's death for poor school performance, inability to concentrate and hyperactivity. He had begun to act out in delinquent ways. He had been very close to his mother and her loss was complicated by his father's absorption in his own problems and inability to afford much emotional support to his son. Russell tried to turn to a paternal aunt who moved in with the family, but she was an alcoholic and had so many problems herself she was experienced as an additional drain. His three older sisters had little time for him as they struggled to work through their own grief reactions. Dispossessed of his own room by the aunt, and with no nurturing maternal figures, Russell identified with his mother and her illness and wished to join her in death by attempting suicide. We saw the father and Russell over a period of 11 months. During this time the father was helped to work through his own grief, and to recognize and support his son's need for his concern, supervision and support.

Russell had begun to act out in delinquent ways, was evading facing his sadness and loss and was becoming adept at manipulating others to evade responsibility at school and at home. We worked with him directly about his feelings and also encouraged the use of acceptable environmental resources such as the "Y" and tutoring to achieve healthier ways of receiving recognition. In the meantime the father began to go out with a lady he had met through the extended family. As family activities increased, Russell came to accept her as a substitute mother figure and was delighted when she and his father married. Two months after we closed the case, Russell telephoned his worker to let her know of his successful school work and to report his happiness with his family. He expressed his acceptance of his mother's death saying he was glad she was in heaven and no longer suffering the pain she had before her last heart attack.

While we have been discussing the effects of the death of a parent on the child, it is equally important to consider the effect on a family when a child dies. Dr. David Kaplan, a sociologist at the Stanford University Medical Center has been conducting a three-year study of families with leukemic children. He is finding that 80% of all families with a leukemic child cannot cope with the stress. Dr. Kaplan emphasizes the importance of family members communicating openly and honestly their feelings. He states that principles for handling stress cut across all types of illnesses and crises. It is good mental health to grieve over loss at the time it occurs rather than attempting to deny or repress the sadness, anger, and guilt which are a natural part of mourning. The improper coping of such crises leads to physical and psychological illness, usually about a year after the stress-causing events. Indications are that in the families studied, two out of three couples obtain divorces after the child dies and that in more than half of the families, one member is under psychiatric care a year after the death of the child. There are indications that the family members who suffer most are the dying child's siblings (Binger, 1971). However, with new approaches to handling crises, the families under stress can survive without falling apart. This paper is presented as an aid in recognizing such needs, so that the proper guidance and support can be given. Group and individual sessions held with families and individuals have been especially effective (Lansky, 1972).

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Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Law Affecting Emergency Medical Services and Rescue Squads

DAVID K. WIECKING, M.D.

The formation and operation of a trained rescue squad or ambulance crew have contributed significantly to the saving of human life in many communities. The rescue squadsman as a trained paramedical person is aware of his medical duties. He should also be aware of his legal responsibilities and privileges.

The Standard of Care

The rescue squad has two principal functions in which it must be demonstratively competent and from failure of which it may have potential legal liability: the operation of the vehicle and the treatment of the injured. The rescue squad as a corporate body has a duty to utilize the services of reasonably competent and reliable persons. The corporate structure may be found negligent if it knowingly employs an incompetent or habitually careless and reckless person. The squadsman who is the driver of the rescue vehicle is expected to obey all rules of the road and to exercise due care in the operation of the vehicle, consistent with the standards of other reasonably competent drivers. The rescue squadsman as a medical person is expected to know more than the untrained layman, although he is not held to the same high standard of care as is a trained nurse or physician. He has a positive duty not to do any active or intentional harm to the injured patient. The rescue squad has a common law duty to function at the standard to be expected of a reasonably competent rescue squad, over and above any statutory duties which may be imposed upon it.

Statutory Criteria of Competence

The public, speaking through their legislative bodies, has in recent years established statutory criteria for the qualification of rescue squad and ambulance personnel as well as for the vehicles. The stimulus for these new legislative standards was furnished in part by the Federal National Highway Safety Act of 1966.[1] Virginia and other states have enacted legislation in this regard[2], and have established as a governmental function an Office of Emergency Medical Services to assist the communities in the provision of competent trained rescue squads and ambulance services.[3] In Virginia these functions are in the State Health Department. The 1974 General Assembly conferred further authority upon the State Board of Health to plan and develop a comprehensive coordinated emergency medical care system[3a], and also directed a study of the feasibility of establishing a State sponsored and supported central headquarters for rescue squads and a state-wide fire-service training facility.[3b]

The statutory requirements concerning rescue squads are mandatory. Every rescue squad and ambulance crew must now meet these statewide standards. Any rescue squad which fails to meet the standards is by definition operating illegally. These statutory conditions are an attempt to elevate and to create uniformity in the standards of conduct and training of rescue squad personnel. The imposition

DAVID K. WIECKING, M.D., LL.B., *Chief Medical Examiner, Commonwealth of Virginia.*

of mandatory state-wide criteria for minimal qualifications has undoubtedly contributed greatly to the generally improved quality of care rendered the injured.

The legislature has also given rescue squads special privileges in recognition of their significant public status. Thus, traffic law exemptions and special liability protection are conferred upon the rescue squad. In return for these special advantages, the public expects the rescue squad to operate at a certain level of excellence. Public attitude and expectations of the rescue squad cannot be ignored.

Licensure Regulations

The legislature has stated certain minimal requirements for the operation of a rescue squad or ambulance. Statutory requirements are further elaborated by the Rules and Regulations of the State Board of Health. These are drawn up in consultation with an Advisory Committee of Emergency Medical Services, which is composed of representatives from the major affected interest groups, including the rescue squads. Each squad must obtain a permit for operation. Their vehicles must be equipped in certain specified manners. The medical equipment and supplies must be of a proper type and in good repair. Every ambulance must contain at least two attendants and, most importantly, every medical attendant must possess certification that he has completed the specified minimal training requirements. Additional regulations may be adopted by the Board of Health as circumstances indicate.

The Duty To Render Aid

No one is under a legal duty to render any aid to an injured person under the common law. However, one who undertakes to aid such a person is under a legal duty to render the highest degree of aid within his capability. The rescue squadsman who purports to be an emergency medical technician is bound to exhibit that degree of knowledge and competence and to conduct himself in a manner which would be expected of other reasonably competent rescue squadsmen in similar circumstances.

Good Samaritan Law

In an effort to encourage persons to render assistance at the scene of a highway accident or fire, or enroute from an accident scene to a hospital facility, the Legislature has specifically declared that persons who render aid in good faith at such a situation shall not be liable for a negligent act which they may commit while so performing. The rescue squad attendant is specifically mentioned in the Virginia Good Samaritan Statute.[7] Certified squadsmen who have completed the special training course in cardiopulmonary resuscitation are also specifically protected when engaged in that special function. The Good Samaritan Statute does not, however, protect the squadsman from motor vehicle negligence.

Consent to Treatment

No one is required to subject himself involuntarily to medical treatment except by judicial order. If the rescue squadsman arrives at an accident scene and an injured person refuses treatment, the squadsman should not press his attentions upon him. Most injured persons, however, do not protest treatment, and it is then assumed that they have given their implied consent to treatment. A child or an unconscious person or one who is in obvious need of immediate emergency attention and who does not protest can be assumed to consent to treatment.[8] It is obviously not practical to demand a written consent for treatment from a roadside accident victim.

Traffic Laws

A rescue vehicle is given special dispensation to be operated in unusual manners upon the highways. When so functioning in Virginia, it must have a red light and siren operating[9] and have liability insurance in force. It is entitled to have other vehicles yield the right of way to it.[10] The rescue vehicle is permitted to have certain special lights as may the members of the rescue squad upon their personal

cars.[11] Standards are also set for the operation of sirens.[12] These various exemptions to the general highway laws permit operation of the rescue squad upon official emergency trips in a rapid and efficient manner, consistent with due care for others on the road.

The duty upon the rescue vehicle operator to conduct himself and his vehicle in a safe manner is high. Unsafe or reckless operation of the emergency vehicle is not only counterproductive to the reasons for a rescue squad's existence, but can result in a law suit against the rescue squad or ambulance operator.

The modern well-equipped and well-trained rescue squad and emergency ambulance crew have contributed significantly to the successful treatment and removal of victims of accidents and catastrophy. Knowledge of the law affecting rescue squad and rescue squad vehicle personnel is important for the squadsman. Smooth functioning and close cooperation between a rescue squad, the police agencies, the fire department, the medical examiner, and the funeral home will show a continued high level of emergency medical services to the citizens.

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3A S.B. 467, amending Section 32-310.1:1 (1974) session)

3B SJR 43 (1974 Session)

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8. See e.g. Sectuib 90-21.1 et seq. N.C.G.S.; and Section 32-137, Code of Virginia for typical "Consent to Medical Treatment" statutes.
9. Section 46.1-226 Code of Virginia.
10. Section 46.1-225, Code of Virginia.
11. Section 46.1-267, 46.1-267.1, 46-268, Code of Virginia.
12. Section 46.1-284, 46.1-285, Code of Virginia.
13. Virginia Highway Safety Division, Case Study Report 42-1973, Richmond, April 1973.
14. *Phillips v. U.S.*, 182 F. Supp. 312 (E.D., Va., 1960)
15. See Section 32-364.3:1, Code of Virginia, for the "statutory" definition of death.
16. Section 19.1-41, Code of Virginia.

Medicare—Part B....

CURTIS J. KELLY, J.D.

Routine Physical Checkups

Routine physical checkups as defined in the Medicare Regulations are "examinations performed without relationship to the treatment or diagnosis for a specific illness, symptom, complaint or injury." This exclusion is usually applied to examinations in this entirety. However, the existence of a single specific complaint would not necessarily lead to a finding that a comprehensive rate of diagnostic procedures is covered. In such situations, those diagnostic procedures which are wholly unrelated to the symptom or complaint, and which are performed simply as a part of a standard battery of tests, would fall into the category of services excluded as "routine physical checkups".

Such procedures would be excluded services whether they are performed by the physician during the course of his examination or whether the patient is referred elsewhere to have them performed. The reasonable charge reimbursement for the covered physician's examination could not include any additional amount for such procedures and no payment could be made to a provider, independent laboratory or supplier of services in connection with such procedures.

The denial of benefits under this clarification, for any diagnostic test performed, without relation to a specific symptom, complaint or illness, does not reflect a judgment by either the Social Security Administration or your carrier about the propriety of the value of such tests.

Diathermy and Diapulse

The Social Security Administration's Intermediary Letter Number 403 is reproduced below, in part:

Question—On what basis may program reimbursement be made for pulsed wave diathermy treatments?

Answer—Professional advice indicates that low-energy pulsed diathermy machines such as Diapulse, Theramatic (standard model only), Spectrowave and Superpulse are therapeutically useless because they are not able to elevate tissue temperature sufficiently to produce a therapeutic effect. Therefore, no payment may be made under the program for this type of treatment.

However, other pulsed wave diathermy machines have been found to produce some degree of therapeutic benefit for essentially the same conditions and to the same extent as standard diathermy. Accordingly, where the carrier's medical staff has determined that the pulsed diathermy apparatus used is one which is considered therapeutically effective, the treatments will be considered a covered service, but only for those conditions for which standard diathermy would be medically indicated and only when rendered by a physician or incident to a physician's professional services. Further, when the charge for covered pulsed wave diathermy treatment is substantially in excess of that which would be reasonable for standard diathermy, reimbursement should be based on the reasonable charge of standard diathermy.

The Medical Society of Virginia . . . .

Special Session of the House of Delegates

A special session of the House of Delegates of The Medical Society of Virginia was held in the Commonwealth Room of Richmond's Hotel John Marshall on Wednesday, April 10, 1974. The meeting was called to order at 10:00 A.M. by Dr. William J. Hagood, Jr., Clover, Speaker.

The invocation was delivered by Dr. Raymond S. Brown, Gloucester, First Vice-President.

A report from the Credentials Committee was then presented by Dr. John T. Myles, Newport News, Chairman, who advised that a quorum was present. Other members of the Committee were Dr. Charles M. Caravati, Jr., Richmond, and Dr. John W. Giesen, Radford.

Dr. Percy Wootton, Richmond, Chairman of the Rules Committee, reported that his Committee had given the 1973 Rules of Procedure very careful consideration and recommended that they be adopted and utilized for the special session. Members of Dr. Wootton's Committee were Dr. Gordon G. Birdsong, Franklin, and Dr. Harry L. Westfall, Jr., Fredericksburg. At the request of the Speaker, he also read the proposed agenda and the 1973 Rules of Procedure to the Delegates. The House then adopted the 1973 Rules of Procedure and the agenda for the special session.

Dr. Hagood then announced that Council on March 31, 1974, in accordance with the Society's Constitution and By-Laws, voted for the special session and voiced its approval of the call in the form of a letter from the Executive Vice-President that had been mailed on March 15 to all members of the 1973 House of Delegates. The letter appears below:

> "Dr. John A. Martin, President, has announced plans for a special meeting of the House of Delegates of The Medical Society of Virginia on Wednesday, April 10. The special meeting will be held at Richmond's Hotel John Marshall, beginning at 10:00 A.M. The membership of the House will be composed of those members elected by their component societies for the 1973 session at Norfolk.
>
> "This special meeting is necessitated by a final HEW decision designating Virginia as a five PSRO State. This decision means that our proposed plan for PSRO has suffered 'substantiative changes' and according to a resolution adopted by the House on October 16, 1973, no implementation can be carried out until it is first brought before the Council and then the House.
>
> "This will be a historic and important meeting, perhaps the most important in the Society's long history. Consequently, Dr. Martin urges all delegates to make every effort to be on hand for this crucial session. Those who cannot, should make certain that their alternates represent them.
>
> "THE ENCLOSED CREDENTIALS CARD SHOULD BE BROUGHT WITH YOU TO THE MEETING. It will provide the quickest identification for the Credentials Committee."

The Speaker then introduced Dr. John A. Martin, Roanoke, President, who expressed the hope that the special session would clear the air where Professional Standards Review Organization (PSRO) is concerned. He expressed the feeling that the session would determine what kind of Society Virginia physicians will have in the future and emphasized the historic aspects of the meeting. He went on to say that physicians are now living in an age of public accountability and that quality and cost controls are rapidly becoming a way of life.

Dr. Martin advised the House that the Society was carrying out its directives with reference to seeking repeal of PSRO and supporting the legal action by the Association of American Physicians & Surgeons challenging the constitutionality of the law. In discussing various alternatives available to the Society, he asked whether outright rejection of PSRO could result in bureaucratic control rather than that by our peers as intended. He stated that everyone dislikes interference and that it is difficult to work with a law which we dislike so much.

Dr. Martin then voiced support of recommendations made March 29, 1974, by Dr. Keeley's Committee on Peer Review and moved that the

following resolution, based on that Committee's recommendation be adopted:

> Resolved, That the previous By-Laws of the Foundation be amended to qualify for a support center to implement PSRO in Virginia, with the understanding that Virginia physicians must have absolute control over all data, and be it further
>
> Resolved, That the Directors of the Foundation be the same as originally recommended.

Members of Dr. Keeley's Committee were Dr. Robert K. Maddock, Norfolk, Dr. Frank C. Robert, Hampton, Dr. Thomas L. Gorsuch, Waynesboro, Dr. Joseph H. Early, Jr., Hillsville, Dr. William M. O'Brien, Charlottesville, Dr. Frank G. Turner, Danville, and Dr. Harold O. Mott, Arlington. (A copy of Dr. Martin's remarks—in their entirety—is on file in the Headquarters Office.)

Dr. William O'Brien, Charlottesville, then discussed a number of alternatives available to the House and also attempted to answer a number of questions most often asked. He emphasized that PSRO is not going to go away and that non-participation by physicians will result in a program developed by bureaucrats for cost control purposes. He expressed the thought that a physician-run program can emphasize quality and the solving of health care problems.

Dr. O'Brien also called attention to the fact that a number of non-medical organizations are waiting in the wings for an opportunity to take over the leadership and control of the PSRO program. He seemed to feel that most physicians would probably wish to establish a PSRO responsive to physician and patient needs—one in which physicians would remain in complete control. He brought out that should Federal requirements become intolerable, the PSRO could dissolve and leave the Government with the option of starting from scratch at a much later date.

Dr. James B. Hutt, Jr., Chester, was then called upon to present the opposition's case against participation in PSRO. He called it the most crucial issue to come before the nation's physicians in many, many years. He asked whether we should fight to preserve our status of free men or submit instead to slavery. Dr. Hutt went on to trace the development of the PSRO movement both nationally and within our State. Pointed out was the fact that the House of Delegates in 1973 adopted a strong resolution calling for repeal of PSRO and support of a suit filed by the Association of American Physicians and Surgeons. Dr. Hutt pointed out that the AMA House of Delegates, during its recent meeting in Anaheim, had taken a firm stand on the repeal issue. He expressed the opinion that PSRO is unethical, unacceptable, unwanted and unconstitutional. It could, in his opinion, be likened to "cookbook" medicine.

Dr. Hutt strongly objected to any PSRO acting as police, judge and jury. He discussed the punitive features of the law and pointed out how the physicians' records were subject to the closest scrutiny. He went on to say that many physicians would refuse to practice under PSRO—particularly since it will pit physician against physician and physicians against their medical societies. It was also his opinion that quality of care would deteriorate and certainly become more expensive. Dr. Hutt closed by saying that the preservation of freedom is absolutely essential.

Dr. Henry Simmons, Director of the Office of Professional Standards Review, was then invited to address the House and he expressed the feeling that a PSRO support center would be in keeping with the original proposal of The Medical Society of Virginia. He stated that PSRO will be the bedrock of quality assurance in any National Health Insurance Program which might be forthcoming. He went on to insist that the setting of standards and final judgments on the quality of care would be left to the various regions. It was Dr. Simmons' feeling that a support center would permit the retention of those freedoms discussed by Dr. Hutt. He also stated that the PSRO program represents the first time that final judgment decisions have been left to practicing physicians. He also stated that PSRO is not a cost control program. Dr. Simmons admitted that confidentiality is a matter for concern and that proper answers must be found.

Introduced next was Dr. John M. Chenault, Vice-Chairman of the AMA Board of Trustees. Dr. Chenault stated that it is difficult to predict the final impact of PSRO because of the vagueness of the law itself. He stated that although PSRO applies only to Medicare and Medicaid at this time, it will surely be expanded in the future. He went on to say that a storm of protest is building up across the nation and that AMA is doing everything possible to make sure

that the program's workability matches its importance.

Dr. Chenault stated that the law is so vague and confusing that it all comes down to how it will be interpreted by Federal officers. It was brought out that the Secretary of HEW has admitted that cost control is a definite factor.

Dr. Chenault expressed concern over the "cookbook" aspects of the program, the volume of paper work which will be required, the handling of patients' profiles and what could be an ever growing abuse of privacy on the part of Government. He added that AMA will support any state which wishes to legally challenge the area designations within its borders.

In commenting on the action taken by the AMA House of Delegates at Anaheim, Dr. Chenault stated that the Board of Trustees is endeavoring to bring about a thorough revision of the PSRO law. The Board views the House action as a mandate to improve and upgrade the law to the point where it will be more acceptable. Nineteen amendments have already been introduced and will soon be considered.

Dr. Chenault advised the House that most states are facing the same problems as Virginia. He indicated that Florida and Texas are among those which will bring suit against HEW and that Illinois is in the process of developing its own peer review system. An assessment of its members is being made not only to support the new system but also to oppose the Federal program. Georgia stands strong for appeal and Louisiana may well be taking the strongest stand of all in this respect. He indicated that a number of states are looking into the advisability of applying for support center contracts.

During the question and answer session which followed the various presentations, Dr. Simmons expressed the opinion that physicians would not wish the General Accounting Office, or any other Governmental body to make professional decisions. It was emphasized again that the various norms and standards would be established by individual PSROs. It was also his opinion that benefits from the program would definitely exceed and outweigh the cost involved.

There was some doubt in the minds of many that support centers would be anything more than temporary organizations. Dr. Simmons replied that the contracts would be renewable each year.

Following the question and answer session, the House recessed for lunch.

Upon reconvening, the Speaker called for a report from the Credentials Committee and Dr. Myles stated that a quorum was again present.

Questions were once again received from the floor and there was some concern as to just who would make the final decisions concerning changes in guidelines and regulations. It was stated quite definitely that the Office of Professional Standards Review would make the final determination as to when and what guideline changes were necessary.

The Speaker then discussed the various alternatives for the handling of business by the House —paying particular attention to Reference Committee possibilities. He next explained in detail the differences between committee of the whole and its two alternate forms; quasi committee of the whole and informal consideration. He called attention to the fact that a committee of the whole can only make a recommendation for a formal action by the House and that a Chairman must be appointed. A quasi committee of the whole is quite similar—the main difference being that the Speaker would continue to conduct the proceedings. Informal consideration would permit unlimited comments and the House could take final action immediately. Dr. Hagood said he personally favored informal consideration and recommended its utilization by the House.

Dr. Wootton moved that the Rules of Procedure be amended in such manner as to rescind that part calling for the appointment and utilization of a Reference Committee. *The motion was seconded and carried.*

Dr. Wootton, on behalf of the Rules Committee, then moved that the House follow the rules of informal consideration for the remainder of the special session. *The motion was seconded and adopted.*

The President's resolution, based on a recommendation of the Peer Review Committee, was again presented.

Dr. W. Callier Salley, Gloucester, speaking as a member of the First District's delegation, moved the following amendment by substitution and it was properly seconded:

> WHEREAS, The PSRO legislation now being implemented causes an unconscionable burden upon the medical community, and
>
> WHEREAS, PSRO guidelines will set mandatory norms, require pre-surgery certification

and concurrent certification for all hospital admissions, and

WHEREAS, Such guidelines ultimately emanating from the Secretary of HEW and his regional representatives are inconsistent with the unfettered practice of medicine, and, therefore, detrimental to the welfare of our patients, and

WHEREAS, Peer review has been practiced by the medical profession for many years, and

WHEREAS, Peer review implies and presupposes only peer involvement in such a process; therefore, be it

RESOLVED, That The Medical Society of Virginia call for the repeal of PSRO legislation and authorize its Council to proceed with a plan for statewide medical peer review outside the Federal PSRO, emphasizing and safeguarding local physician autonomy; and be it further

RESOLVED, That The Medical Society of Virginia call upon all its members not to participate in any PSRO activities under HEW guidelines; and be it further

RESOLVED, That this resolution be forwarded to the AMA, the elected Congressional representatives of Virginia, the Secretary of HEW and the President of the United States.

The Speaker then announced that both items of business (The President's motion and the First District's amendment by substitution) were subject to amendment for the purpose of perfecting them prior to final voting on the perfected items of business.

Dr. E. D. Farley, Jr., Richmond, then offered an amendment to the First District's amendment by substitution which would insert the words "high quality medical care". The portion of the resolution affected would then read ". . . emphasizing high quality medical care and safeguarding local physician autonomy . . .". *The motion to amend was seconded and adopted.*

Dr. W. Leonard Weyl, Arlington, moved that the First District's amendment by substitution be further amended by deleting the words "call upon" and substituting instead the word "encourage". This would mean that the Society would encourage its members not to participate rather than calling upon them not to do so. *The motion to amend was seconded and carried.*

There followed a considerable amount of discussion during which 26 members of the House offered comments. Throughout the discussion, it was agreed that control of the data bank is absolutely essential and that control must rest with Virginia physicians.

A motion was then introduced by Dr. Gervas S. Taylor, Jr., Norfolk, which would amend the President's original resolution. It was, however, ruled out of order since its form was that of an entirely new resolution.

Dr. Thomas L. Gorsuch, Waynesboro, offered an amendment to the President's resolution which would empower the President and Council to initiate such legal action as might be necessary to achieve HEW approval of the Society's original plan. The motion was seconded but lost.

A motion ending debate and calling for the question was seconded and adopted by a two-thirds majority. As *previously agreed*, a short recess was permitted before the actual voting commenced on the amendment by substitution and/or the President's resolution. The House of Delegates was recessed approximately ten minutes.

The Speaker called the House of Delegates to order.

Dr. Thomas L. Lucas, Alexandria, moved to vote by secret ballot. The motion was seconded but failed to carry.

Dr. Harry C. Kuykendall, Alexandria, moved to divide the First District's amendment by substitution by voting first on that portion calling for repeal of PSRO and the listed distribution of the amendment by substitution. The motion was seconded and adopted by majority vote.

The substitute resolution was then divided and the following portion adopted by a majority vote:

WHEREAS, The PSRO legislation now being implemented causes an unconscionable burden upon the medical community; and

WHEREAS, PSRO guidelines will set mandatory norms, require pre-surgery certification and concurrent certification for all hospital admissions; and

WHEREAS, Such guidelines ultimately emanating from the Secretary of HEW and his regional representatives are inconsistent with the unfettered practice of medicine and, therefore, detrimental to the welfare of our patients; and

WHEREAS, Peer review has been practiced by the medical profession for many years; and

WHEREAS, Peer review implies and presupposes

only peer involvement in such a process; therefore, be it

RESOLVED, That The Medical Society of Virginia call for the repeal of PSRO legislation, and be it further

RESOLVED, That this resolution be forwarded to the AMA, the elected Congressional representatives of Virginia, the Secretary of HEW and the President of the United States.

A motion to adopt the remainder of the First District's amendment by substitution—having to do with the establishment of an independent peer review program and the encouragement of the membership to forego participation in any PSRO activities under HEW guidelines—*was then defeated by a vote of 69-73.*

The Speaker then ruled that the final result of the voting on the First District's amendment by substitution now made the President's motion viable.

A motion by Dr. Taylor to postpone further consideration of the President's resolution until the next annual meeting was seconded but lost.

The House then voted on the President's original resolution and it was adopted by a vote of 76-60.

Dr. Hagood asked the House of Delegates if there was any further business to come before the House.

Dr. Percy Wootton requested permission of the House to introduce a courtesy resolution on Dr. Richard E. Palmer. It was explained by the Speaker that a resolution of this type could be introduced with the unanimous consent of the House. There being no objection, *the following resolution was adopted*:

WHEREAS, Dr. Richard E. Palmer having served with distinction in this House of Delegates, and as Past-President of The Medical Society of Virginia, and as a Trustee of the American Medical Association, and has been active in behalf of organized medicine in his community and nation, and has served in many other offices too numerous to list fully; therefore, be it

RESOLVED, That the House of Delegates of The Medical Society of Virginia offer its sincere congratulations to Dr. Richard E. Palmer on his election as Chairman of the Board of Trustees of the American Medical Association, and that this House of Delegates pledges its continued support to Dr. Palmer.

Dr. Hagood again asked if there was any further business to come before the House.

There being no further business, a motion to adjourn was seconded and adopted.

The Speaker announced this special session of the House of Delegates of The Medical Society of Virginia was adjourned sine die.

ROBERT I. HOWARD, *Secretary*

APPROVED:

WILLIAM J. HAGOOD, JR., M.D., *Speaker*

Woman's Auxiliary . . . .

Idea Exchange—International Health Activities

Virginia set sail for adventure aboard the *USS WAMSVA* on an imaginary cruise this year and discovered new routes to old treasure. Our own husbands and friends overseas were honored on Doctors' Day by members mailing books, magazines and medical journals to doctors and their families in India and Brazil on March 30th. In cooperation with the International Book Project, the State Chairman matched families so that correspondence might be initiated thereby strengthening our friendships.

To honor their doctors, the Roanoke Auxiliary members donated funds to provide an elevator for an empty shaft in a four story general hospital in Roanoke's sister city, Wonju, Korea. The check for $805.00 was presented to Dr. Robert Roth, a Roanoke plastic surgeon who was a medical missionary to Wonju for ten years.

Other activities included the creation of 35 johnny coats from old shirts, collections of PDRs, 239 pairs of eyeglasses and 42 cases, trading stamps and coupons for IBP's refund program, soap scraps from motels, and drug samples. A booklet of medical anecdotes, "Tattled Tales", will be sold for IHA. Adoptions, which provide the basic necessities and *love* for three children, and contributions to SKIP are important activities.

Margie Warres was piped aboard for the Mid-Year Board meeting in March. Her talk on Afghanistan and display of toys and clothes easily made were enthusiastically received. Dr. Holmes once wrote, "I find the great thing in this world is not so much where we stand as in what direction we are moving." Virginia is moving and we have discovered a whole new world at sea. We invite you to come aboard. Set Sail for Adventure!

Virginia Fletcher (Mrs. Donald F.)

Local Activities

A few months ago I wrote to many of the auxiliaries in the State requesting information as to what their local groups had been doing —and asked them to share with us any projects or programs they had found especially interesting.

Berry Wallace from the Virginia Beach Auxiliary wrote of their plans for a Luncheon-Fashion Show that took place in March. She wrote "A local clothing store (LaVogue) is doing the fashion show and it will be held at the Oreon's roof atop the new oceanfront Cavalier Hotel. It is a very attractive setting and we plan to make enough money to sponsor our medical scholarship. This is our project for the year and we will award a $500 medical scholarship to a deserving applicant. Our programs for the year have ranged from a luncheon in the fall to a program on eye donation with a Braille demonstration. A workshop meeting is planned and we will conclude the year with a picnic. For Doctor's Day we plan a Sunday morning brunch for the doctors and their wives".

From Portsmouth, Mary Denaro writes that "many of our Auxiliary members are active in community projects. We have a Suicide-Crisis Center, manned, started and originally funded by a group of young women. Another group bought and take into the local schools heart scan and visual machines. Also, there are several groups reading newspapers, books and anything of interest over the radio for the benefit of the blind. There are so many worthwhile projects that really need doing. Just the name 'Medical Auxiliary' has enough weight to open some doors and can get a project off to a good start."

The Auxiliary in Alexandria has had a busy and productive year. Alice Sommers writes of several fund raising projects that included "a Luncheon-Cruise and Fashion Show aboard La Bateau, the cruiseship on the Potomac. The

proceeds went to FOLD (foster homes for teenagers) and to the Pediatric Unit of the Alexandria Hospital. In the fall the Auxiliary sponsored a tennis tournament that was open to Auxiliary members and their friends. This involved 66 women with the proceeds going to the Alexandria Bicentennial Commission Booklet on Medicine in Alexandria. In the spring we presented a series of six Art Lectures on Early and Contemporary American Art. This and a Seven-Course Gourmet Dinner for Ten, served in a private home, were for the benefit of local charities. A mixed doubles Round Robin Tennis Tournament was the last fund raising endeavor of the year. Our monthly meetings are held in the homes of our members. In November Congressman Stan Parris spoke to the group about current medical legislation before Congress. In January, we had a speaker from the Alexandria Bicentennial Commission. February's speaker was from the Alexandria Police Department. His subject was how to burglar proof your home. The May meeting will be a tour of the new wing at the Alexandria Hospital. Also in May we will have our annual Covered Dish Supper with our husbands as guests."

A Christmas Bazaar was sponsored by the Rockingham County Auxiliary. Jan Ramser writes "We purchased a Hotter pump for the local hospital nursery with part of the proceeds." Enclosed with Jan's letter were some newspaper clippings including some Doctors' Day publicity and a good picture taken when the pump equipment was presented to the hospital.

Here in Danville our auxiliary sponsored a champagne brunch and fashion show to raise money for the hospital expansion fund. It was a huge success and as a result we will be able to furnish the waiting room and conference room outside of ICU in the hospital's new wing.

It's fun to know what auxiliaries around the State are doing. I appreciated those that wrote of summer plans, events etc., and hope that we will hear from others during the summer.

Nan Freed (Mrs. Charles C.)

Blood Donors

Two rule changes on who can donate blood have opened up a new field of potential donors. The permissible age has been lowered to 17 by the American Red Cross and American Association of Blood Banks (it previously was 18) and persons with a history of malaria can donate blood for use as plasma, three years after recovery from the disease. Before, they were permanently barred from donating blood. This change is based on the fact that malaria is transmitted only by cellular components of blood, such as red cells, and not plasma. Any 17-year-old donor still will require consent of his parents or guardian, unless the donor is married, self-supporting or in the armed forces.

Editorial . . . .

The Hour Is Late

AS MORE AND MORE RESTRICTIONS are being put on American medicine the time has come to reflect on what has gone wrong with our efforts to preserve a system which we have considered a good one.

Why have politicians of both parties eagerly, and successfully, sought to control the free practice of medicine in America, which most individual patients had accepted as a good system, and which had led to world-wide recognition of excellence of care and scientific achievement?

The answer must, of necessity, be speculative and undoubtedly incomplete but several points must be considered. First, we physicians have never been able to create a united front in presenting our side of the question to the public. There has been the constant division between town and gown, between full-time hospital based doctors and the private practitioner, between organized medicine and the uncommitted individualist.

Second, we have been timid in using our political clout. We have eagerly supported political parties and individual politicians with money and personal effort, but have never called in our political debts effectively when the chips were down. We have been taken for granted by many politicians, since they knew we had nowhere else to go.

Third, we have failed to get our message across to those who have benefited most from the system and who are likely to lose most from its insidious abolition: our patients. We have somehow stumbled into a defensive position, admitting that we could do better, rather than pointing with pride at our collective professional achievements.

Fourth, we have been willing to accept compromise against our better judgment. We have been willing to accept outside political pressures in the hope that we could modify the most onerous of the regulations which were put upon us.

What then is in store for us? And what can we do at this late hour? We must take our message to our patients, especially the elderly, who will immeasureably suffer from the increasing red tape and denial of the care to which they are entitled and which they have come to expect. We must point out to the public that denial of a physician's freedom of judgment will result in third-class care for all Americans. We must go to our politicians and tell them we are tired of being taken for granted and being stepped upon at every turn. We must get our message to the leaders of organized medicine. We must let them know that we are no longer willing to go along and appease the political establishment. If we are to maintain our high standards of professionalism and continue to give effective care to our patients, we must take immediate steps to implement the above goals.

The hour is late! Can we do it?

W. L. WEYL, M.D.

News . . . .

Calendar of Events

Annual Congress on Occupational Health—Sponsored by AMA—Marriott Motor Hotel—Chicago—September 9-10, 1974.

Walter L. Thomas Symposium on Gynecologic Malignancy and Surgery—Duke University Medical Center—Durham, North Carolina—September 20-21, 1974.

Medical Association of the Valley of Virginia—Annual Meeting—Antibiotic Therapy and Infectious Diseases—Nursing Auditorium of the Harrisonburg Hospital—October 9, 1974.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 3-6, 1974.

American Association for Clinical Immunology and Allergy—Annual Meeting—Pier 66—Ft. Lauderdale, Florida—November 21-24, 1974.

AMA Clinical Meeting—Portland, Oregon—November 30-December 4, 1974.

Air Pollution Medical Research Conference—Sponsored by AMA—Sheraton Palace Hotel—San Francisco—December 5-6, 1974.

Problems of Cortical Function—Sponsored by Division of Pediatric Neurology of the University of Virginia, Medical College of Virginia and King's Daughters' Hospital—Cascades Convention Center—Williamsburg—December 6-8, 1974.

National Conference on Rural Health—Hotel Roanoke—Roanoke—March 20-21, 1975.

* * * * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members

The following members were received into The Medical Society of Virginia during the month of April:

Abdou T. Abdelmalek, M.D., McLean
Adrienne Cecile Adler, M.D., Sterling
Lawrence Douglas Amick, M.D., Richmond
Michael Francis Ball, Jr., Fairfax
Mauricio D. Bas, Jr., M.D., Vienna
Carlos Luis Blattner, M.D., Marion
Owen Riley Boone, M.D., Leesburg
Romeo Bisquera Borillo, M.D., Narrows
Donald L. Bottomley, D.O., Norfolk
Frederick Martin Bram, M.D., Fairfax
Eileen Josephine Carroll, M.D., Vienna
Koo Young Choi, M.D., Norfolk
Charles Fletcher Christian, M.D., Richmond
Phil Collins, M.D., Charlottesville
Charles Franklin Converse, M.D., Virginia Beach
Stanley G. Crossland, M.D., Falls Church
David K. Davoudlarian, M.D., Falls Church
Elisabeth Burnett Decker, M.D., Leesburg
Antonio West Del Alcazar, M.D., Hampton
Joyce Cormier Donohue, M.D., Fairfax
Lillian Gavrilovich, M.D., Falls Church
Mary Ann Frable, M.D., Richmond

Jack M. Guralnik, M.D., Alexandria
David Lee Harris, M.D., Suffolk
Eloise Clymer Haun, M.D., Richmond
Richard Grant Hunter, M.D., Charlottesville
Gilbert Raymond Irwin, Jr., M.D., Manassas
Hermenegildo N. Isidro, M.D., Falls Church
Blair Dissette Jamarik, M.D., Vienna
Mehrdad Javedan, M.D., Arlington
Robert H. Kalinowski, M.D., Reston
Eu-Eng N. Khan, M.D., Springfield
Diane Komp, M.D., Charlottesville
Jan G. Lindstedt, M.D., Washington, D. C.
David Eugene Longnecker, M.D., Charlottesville
Norma Oller Magpoc, M.D., Virginia Beach
Kalidas D. Malpani, M.D., Arlington
Thelma C. Mascarinas, M.D., Norfolk
Thomas A. Moneymaker, M.D., Arlington
James Donald Morrison, M.D., Hampton
Orhan Muren, M.D., Richmond
Saeed K. Nassiri, M.D., Richmond
Richard Lake Pietsch, M.D., Crozet
Gloria F. Pura, M.D., Alexandria
Clara Rennolds, M.D., Aylett
Harold Lee Riley, III, M.D., Lynchburg
Arthur Eugene Ryan, M.D., Richmond
Robert Roger Simmons, M.D., Danville
Terry Louis Sinclair, M.D., Winchester
Soon Bock Song, M.D., Lynchburg
Eugene Portlette Southall, Jr., Norfolk
Akkihebbal Ramaiah Srikantiah, M.D., Lynchburg
Richard Niles Thompson, M.D. Fredericksburg
John Kenneth Wadley, M.D., Manassas
James Lynn Wagstaff, M.D., Falls Church
Richard N. Willard, M.D., Virginia Beach

New Student Members are:

Gregg A. Alexander, Richmond
David P. McPherson, Richmond
Philip Ellis Newman, Richmond
Edward Andrew Ortiz, Hopewell

Dr. Roy R. Powell,

Portsmouth, was elected president of the Virginia Society of Ophthalmology and Otolaryngology at their annual meeting in Williamsburg.

Dr. Richard E. Palmer,

Alexandria, has been installed as president of the International Academy of Pathology's United States-Canadian Division.

Dr. William H. Muller, Jr.,

Charlottesville, has been elected president of the American Surgical Association at its annual meeting in Colorado Springs. Dr. Muller is chairman of the Department of Surgery, Stephen H. Watts Professor of Surgery and surgeon-in-chief for the Medical Center of the University of Virginia.

Dr. J. Warrick Thomas,

Richmond, has been named a Distinguished Fellow of the American College of Allergists at its annual Congress held in Paris, France. This award is not bestowed every year but "reserved for truly outstanding service to the practice of clinical allergy." Dr. Thomas was president of the College in 1952, chairman of its Board in 1953 and is a member of the editorial board of the Annals of Allergy.

Dr. William S. Allerton,

State Commissioner of Mental Health and Mental Retardation, has received the Virginia Nursing Home Association's Better Life Award for his contributions to improved institutional health care for the elderly.

Dr. Alvin E. Conner,

Manassas, was one of the 38 final nominees in the National Collegiate Athletic Association's Silver Anniversary Awards.

Medical Association of the Valley of Virginia.

The annual meeting of this Association will be held at the Nursing Auditorium of the Harrisonburg Hospital, October 9th. The subject for discussion is Antibiotic Therapy and

Infectious Diseases. The program is being arranged by the University of Virginia School of Medicine and is as follows: Herpes Virus Infections in Man by Dr. Jack M. Gwaltney, Jr.; Current Diagnosis and Therapy of Tuberculosis (with Emphasis on Therapy) by Dr. Gerald L. Mandell; Antibiotic and Pulmonary Disease by Dr. Merle A. Sande; and Syphilis and Gonorrhea by Dr. E. Darracott Vaughan.

Four hours credit from the Virginia Academy of Family Physicians has been applied for.

Additional information may be obtained from Dr. Donald M. Callahan, 1031 South Main Street, Harrisonburg, Virginia 22801.

Northern Virginia Medical Society.

Dr. George H. Kessley, Jr., is the new president of the Society and Dr. H. George White, Jr., is secretary. Both are from Fredericksburg.

Virginia Heart Association.

At its annual meeting in Roanoke in May, Dr. J. Hayden Hollingsworth, Roanoke, was elected president. Dr. Percy Wootton, Richmond, was elected vice-president.

American Academy of Pediatrics.

The following members of The Medical Society of Virginia have been elected to fellowship in the Academy: Drs. William H. Atwill, James C. Jamison and Barry V. Kirkpatrick, Richmond; Dr. Grisha Jarandeh, Annandale; Dr. Thelma C. Mascarinas, Norfolk; Dr. Martha W. Hogan, Springfield; and Dr. Harvey D. Davis, Virginia Beach.

Blue Shield of Virginia Board of Directors.

Four new members have been elected to the Board of Directors, three of them being doctors. They are Drs. Harold W. Felton, Deltaville; Karl F. Menk, Staunton; and Anthony J. Munoz, Farmville.

Dr. John S. Thiemeyer, Jr., Norfolk, was re-elected chairman of the Board, and Dr. Carrington Williams, Jr., Richmond, was re-elected vice chairman.

Young Internist of the Year.

Dr. Robert K. Maddock, Jr., Salt Lake City, was named the 1974 "Young Internist of the Year" by the American Society of Internal Medicine at its Annual Meeting in Salt Lake City in May. The award is presented in honor of outstanding contributions to the field of internal madicine by a physician under 40 years of age.

Dr. Maddock is the son of Dr. Robert K. Maddock, Norfolk, and received his medical degree from the University of Virginia in 1962.

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Physician Wanted.

The College of William and Mary in Williamsburg needs a third M.D., preferably a

G.P. or Internist, for an active Student Health Service caring for 5,000 students, September 1, 1974. New 18-bed facility, opened in August of 1973. Good fringe benefits (State of Virginia Employee Plan). Competitive salary. An Equal Opportunity Employer. Contact R. D. Cilley, M.D., Director, Student Health Service, College of William and Mary, Williamsburg, Virginia 23185. Phone: 804-229-2793. (*Adv.*)

Family Physician Wanted.

The Roanoke Memorial Hospital Family Practice Residency Training Program has an opening for another full-time physician. The residency fills regularly its program and has six full-time directors of other programs who participate and is affiliated with the University of Virginia. Practice experience preferred. Faculty rank, income, benefits, etc., competitive. Contact Dr. Charles L. Crockett, Jr., Roanoke Memorial Hospital, Belleview at Jefferson Street, Roanoke, Virginia 24009. Phone: 703-981-7228. (*Adv.*)

Obituary . . . .

Dr. John Wyatt Davis, Jr.,

Lynchburg, died May 8. He was sixty-eight years of age and a graduate of the Medical College of Virginia in 1930. Dr. Davis had practiced medicine in Lynchburg for forty-four years. He served as a civilian medical officer during World War II. Dr. Davis was a past president and charter member of the American Geriatrics Board and served as president of the Lynchburg Academy of Medicine, the Tri-State Medical Association and the Virginia Academy of Family Physicians. He had also served as a member of the Medical Advisory Board of the U. S. Junior Chamber of Commerce and was a past medical advisor to both the Virginia and American Associations of Medical Assistants.

Dr. Davis had been an active member of The Medical Society of Virginia since 1931. He served on many committees and was Chairman of the Committee on Public Relations. He received the first award of the Society in 1963 for distinguished community service.

Dr. Davis is survived by a sister.

Dr. Douglas Gordon Chapman,

Richmond, died June 1, at the age of seventy-six. He was a graduate of the Medical College of Virginia in 1925. Dr. Chapman was a former chief of medicine at St. Elizabeth's Hospital and practiced there until his retirement ten years ago. He was one of the founders of the Richmond Heart Association and a former president of the Richmond Academy of Medicine. Dr. Chapman had been a member of The Medical Society of Virginia for forty-eight years.

His wife, a son and a daughter survive him.

Dr. Sidney Elsom Bray,

West Point, died May 19. He was ninety-two years of age and a graduate of the Medical College of Virginia in 1909. Dr. Bray practiced in Norfolk and Newport News before his retirement in 1971. He was a staff member of the Riverside Hospital, Newport News. Dr. Bray was a charter member of the Newport News Medical Society and had been a member of The Medical Society of Virginia since 1945.

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1. There are many rugs around which may look similar to Persian ones and may be named Iranian-sounding names to confuse you. Look for the label, "Made in Iran".
2. Even all genuine Orientals are not Persian and not necessarily what you have learned about their value and durability.
3. Stores and auctioneers often sell unauthentic or worn-out Persian rugs for far too much. A good Iranian rug is not out of reach, and if it is genuine it will hold or increase its value.
4. Do not count much on the words, Princess, Contract, Signed, Collector's Item, Royal, Imperial, Prayer, etc. They are all part of a sales pitch or gossip. Rugs are named by the village or, more often, the region of origin. The quality of the rug may vary greatly regardless of the name. So, you should judge a rug by its own individual merits, not by the name.

I would be happy to help you learn more about Orientals and assist you in any way in your selection.

Roller-type Loom

Please call **358-1711**
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